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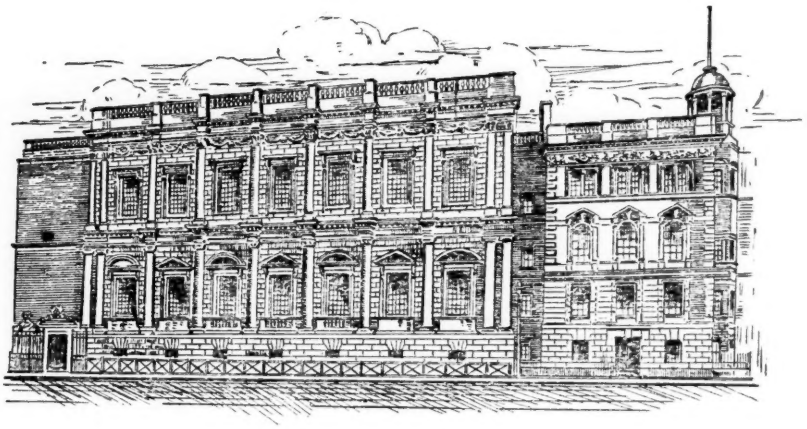

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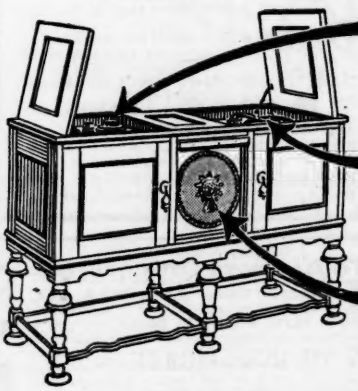

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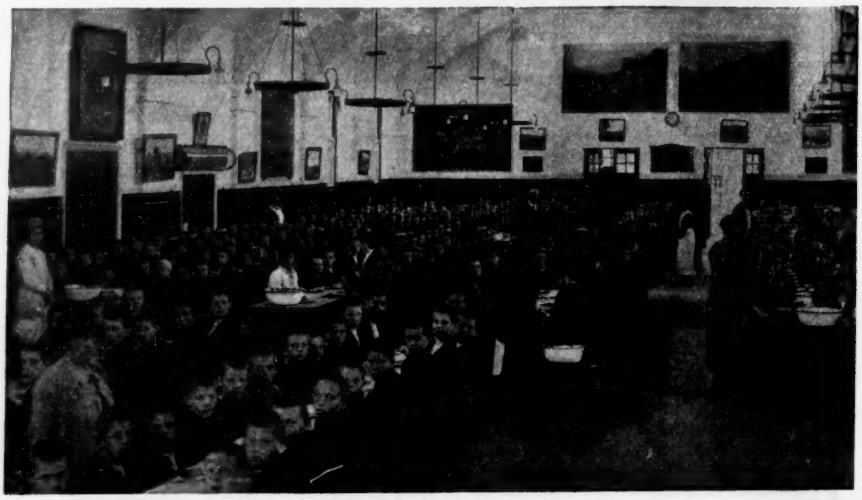

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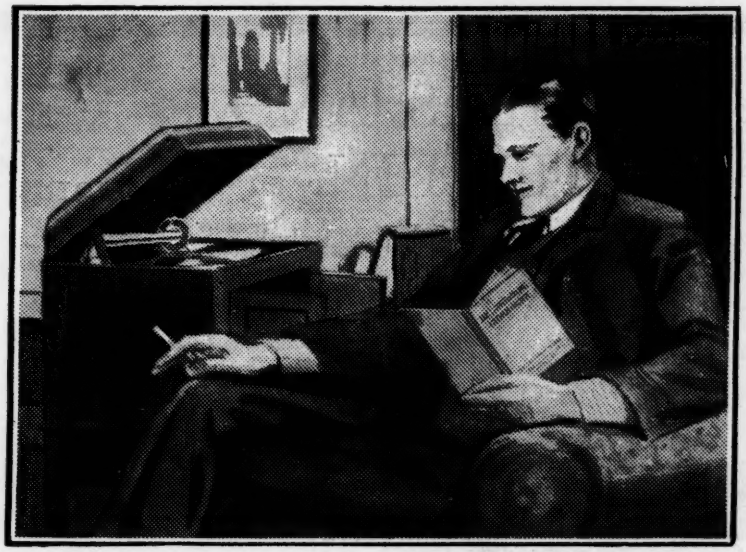

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1897. Commander G. A. Ballard, R.N.
1898. Captain W. B. Brown, R.E.
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1902. Major A. H. Terry, A.S.C.
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# SECRETARY'S NOTES

## I.—Council.

The following Members of the Council having completed three years' service retire at the Anniversary Meeting: Admiral Sir H. H. Bruce, K.C.B., M.V.O.; General Sir P. W. Chetwode, Bart., K.C.B., K.C.M.G., D.S.O.; Lieutenant-General H. D. Farquharson, C.M.G.; Colonel Lord Ampthill, G.C.S.I., G.C.I.E.; Brigadier-General The Earl of Lucan, K.B.E., C.B., T.D., A.D.C.; Colonel the Duke of Northumberland, K.G., C.B.E., M.V.O.; and Colonel C. W. Trotter, C.B., T.D.; all of whom offer themselves for re-election.

The following vacancies on the Council will be filled at that meeting, in accordance with Chap. V of the Byelaws: Royal Navy, 1; Regular Army, 1; Royal Marines, 1; Militia, 1; Territorial Army, 3.

## II.—Staff.

The Council regret to have to report that Lieutenant-Colonel Sir Arthur Leetham, Knt., K.C.V.O., C.M.G., has decided to retire from being the Secretary, Curator and Chief Executive Officer during the coming year, but they are pleased to state that he will continue in the office of Curator of the Museum (Honorary) until such time as a member of the Staff is in the position to relieve him. Steps are being taken to fill the vacancy.

## III.—Anniversary Meeting.

The Anniversary Meeting will be held on Tuesday, 1st March, 1927, at 3.30 p.m. The Council will present their Annual Report and Accounts for 1926, the election to vacancies on the Council will take place, and the result of the Gold Medal Essay will be announced.

The Chair will be taken by the Chairman of the Council, General The Lord Horne, G.C.B., K.C.M.G.

## IV.—Membership.

The Council beg to report that during the past year 319 officers joined the Institution (against 355 in 1925). There were 253 withdrawals and 95 deaths, making a decrease on the year of 29. The number of withdrawals are to be accounted for by the small voluntary increase in the Annual Subscription (four shillings) not being agreed to.

The total number of Members on the 31st December, 1926, was 5,898.

The details of Members joining are as follows :—

| | |
|---|---|
| Regular Army (all arms) .. .. .. .. .. | 225 |
| Royal Navy .. .. .. .. .. .. .. | 34 |
| Royal Air Force .. .. .. .. .. .. | 32 |
| Territorial Army .. .. .. .. .. .. | 10 |
| Royal Marines .. .. .. .. .. .. .. | 8 |
| Royal Naval Reserve and Volunteer Reserve .. .. | 4 |
| Overseas Forces .. .. .. .. .. .. | 4 |
| Civil Functionaries .. .. .. .. .. .. | 2 |
| | 319 |

A very gratifying feature is the support which has been received from serving officers of the Indian Army.

## V.—Officers Joined.

The following officers joined the Institution during the months of November, December and January, viz. :—

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Captain J. S. W. Stone, M.C., R.E.
Captain R. L. McCreery, M.B.E., M.C., 12th Royal Lancers.
Lieutenant D. J. Wilson-Haffenden, Indian Army.
Lieutenant R. H. Holme, Queen's Royal Regiment.
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Paymaster Lieut.-Commander G. H. Bankart, R.N.
Lieutenant R. C. Bartlett, M.C., Royal Horse Artillery.
Captain A. Andrews, M.C., Sherwood Foresters.
Lieutenant A. M. Kimmins, R.N.
Lieutenant W. E. C. Davidson-Houston, Royal Berkshire Regiment.
Captain W. F. French, C.M.G., R.N.
R. U. Morgan, Esq., Civil Functionary, War Office.
Colonel B. D. Fisher, C.M.G., D.S.O., A.D.C., late 17th/21st Lancers.
Lieutenant R. J. Harrison, R.N.
Lieutenant E. F. E. Armstrong, R.E.
Captain L. A. Liddell, Royal Artillery (T.A.).
Lieutenant P. M. Balfour, M.C., Royal Horse Artillery.
Second-Lieutenant W. O. Phillips, Royal Army Service Corps.
Captain H. A. Tapp, O.B.E., M.C., Royal Army Service Corps.
Second-Lieutenant N. Lovett, Gloucestershire Regiment.

Second-Lieutenant L. S. Sheldon, Queen's Royal Regiment.
Captain F. H. Neill, R.E.
Lieut.-Colonel J. M. Hulton, C.B.E., D.S.O., Royal Tank Corps.
Second-Lieutenant H. W. Holman, 6th Bn. London Regiment (T.A.).
Lieutenant S. W. Roskill, R.N.
Lieutenant V. D. G. Campbell, Queen's Own Cameron Highlanders.
Lieut.-Colonel W. B. T. Abbey, C.B.E., late Indian Army.
Lieutenant K. S. Wootten, Oxfordshire and Buckinghamshire Light Infantry.
Colonel G. G. Loch, C.B., C.M.G., C.B.E., D.S.O., late The Royal Scots.
Colonel Commandant W. A. Blake, C.M.G., D.S O., late The King's Regiment.
Captain P. Macnamara, R.N.
Lieutenant R. A. Loch, Queen's Own Royal West Kent Regiment.
Captain O. F. Curtoys, Indian Army.
Flight-Lieutenant H. P. Lloyd, M.C., D.F.C., Royal Air Force.
Lieutenant H. H. Fitton, East Yorkshire Regiment.
Lieutenant E. W. Towsey, West Yorkshire Regiment.
Second-Lieutenant E. M. Dickenson, 6th Bn. Lancashire Fusiliers (T.A.).
Lieut.-Colonel C. B. Thackeray, D.S.O., late Royal Artillery.
Lieutenant G. A. Martelli, R.N.
Captain W. H. C. Ramsden, M.C., East Yorkshire Regiment.
Captain A. W. Keith-Falconer, late Queen's Own Oxfordshire Hussars (Yeomanry).
Captain W. D. C. Newstead, M.C., West Yorkshire Regiment.
Major O. V. Viney, Oxford and Buckinghamshire Light Infantry (T.A.).
Captain I. D. Erskine, Scots Guards.
Captain H. W. Blakeney, M.C., Royal Engineers.
Second-Lieutenant O. H. G. Browne, Queen's Own Royal West Kent Regiment.
Lieutenant E. H. M. Colegrave, R.N.
Captain C. C. Deakin, Indian Army.
Captain D. W. Hunter-Blair, Gordon Highlanders.

## VI.—Gold Medal Essay (Royal Air Force), 1926.

The following additional Essays were received, viz :—

(5) "Jabberwock."
(6) "Omnia mutantur nos et mutamur in illis."

## VII.—Change of Rank and Address.

The attention of Members is called to the necessity for communicating any changes of rank or address to the Secretary. It is essential that such notification should be made in writing, and only ONE change of address can be registered. The first day of the month in which the JOURNAL is issued is the last day on which such change can be notified in order to take effect for the delivery of the JOURNAL of the current quarter. If such changes are not notified, Members themselves will be responsible if their JOURNALS fail to reach them through being wrongly addressed, and Officers are requested to write their names, with initials, distinctly on such communications. Several signatures have recently been received which it has been impossible to decipher, and as there are many instances of

Members bearing the same name and initials, it is requested, therefore, that they will add their rank.

## VIII.—Museum Purchase Fund.

This Fund was opened with the object of purchasing suitable exhibits, which from time to time are offered to the Museum, or are put up for sale at various auctions. The Council hope it will receive support from Members of the Institution who are interested in the Museum.

| | | | |
|---|---|---|---|
| Amount already acknowledged .. .. .. | £78 | 0 | 0 |
| B. E. Sargeaunt, Esq., O.B.E., M.V.O., F.S.A. .. | 1 | 19 | 0 |
| | £79 | 19 | 0 |
| *Less* expended to date .. .. .. .. | 46 | 14 | 4 |
| | £33 | 4 | 8 |

## IX.—The Museum.

The amount taken for admission to the Museum during the past quarter was :—

£75 9 0 in November.
£66 1 6 in December.
£88 19 6 in January.

ADDITIONS.

(3570) Part of the tripod Mast of H.M.S. " Invincible," showing the damage caused by a German shell during the Battle of Falkland Islands, December 3rd, 1914.

The " Invincible " was the flagship of Vice-Admiral Sir F. C. Doveton Sturdee, who was standing at the time immediately above the place where the shell struck.

The action resulted in the sinking of the " Scharnhorst," " Gneisenau," " Leipzig " and " Nurenberg," the whole of Admiral von Spee's Squadron, except the " Dresden " which escaped, but was caught and sunk at a later date.—Deposited by The Dowager Lady Sturdee.

(7926) Frame containing a small portion of wool from the mattress on which the Emperor Napoleon I expired (May 5th, 1821) at St. Helena ; it was given to Surgeon J. Patrick O'Meara in Paris by Count Montholon in 1822.—Given by Lieut.-Colonel Walter O'Meara, C.M.G., late R.E.

## X.—Cavalry Journal.

The Committee of the Cavalry Journal at their meeting held at the Institution on 25th November, 1926, decided to grant payment to Contributors (if so desired) at the discretion of the Editor, who will be glad to receive suitable articles for that Journal. All contributions should be typewritten.

## XI.—Reparation.

The Secretary begs to acknowledge the receipt of £5 (note 215.U.12879), which has been credited to the Museum Funds.

# JOURNAL NOTES

## The Frontispiece.

Colonel C. de W. Crookshank, M.P., by whose courtesy we are able to reproduce in this number the coloured picture of "The Capture of Buenos Ayres," has supplied the following details about the original copy, in his possession :—

> "This is one of a very interesting small collection of rough line engravings (wrongly described as woodcuts) referred to in the Catalogue of Battle Prints[1] which embraces practically all those known.
>
> These plates are the first known to have been published after the various actions and, in most cases, must have been drawn from information supplied by the bearer of despatches or news of the battle. They cannot, of course, be regarded as faithful representations of the actual scenes, but they evidently attracted considerable public attention until their interest waned before the news of fresh victories.
>
> It will be noticed that this particular plate was published on 7th October, 1806, i.e., within little more than three months of the episode it depicts."

## Copies of "Louisbourg" and "Orthes."

A limited number of spare copies of the coloured frontispieces, published in the JOURNALS of November and August, 1926, are available for sale to Members. They have an adequate margin for framing, and can be supplied, post free, for 2s. 6d. the pair, or 1s. 6d. singly.

## Price of Journal to Non-Members.

With the current number the price of the JOURNAL to Non-Members has been raised to 7s. 6d. or the four quarterly numbers will be sent for an annual subscription of £1 10s. 0d., post free in either case.

## Trade Discount.

As from the publication of the present number, the Council have authorised an arrangement whereby recognized firms can be supplied with not less than one dozen copies of the JOURNAL at a time, at a wholesale price of 7s. 0d. each copy, such sets to be collected from the Institution by the buyer.

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[1] "Prints of British Military Operations, 1066-1868," by Colonel C. de W. Crookshank, M.P. Copy in R.U.S.I. Library.

### Additional Copies.

The price of additional copies of this and future numbers of the JOURNAL *to Members* will be 4s. od., post free. Additional copies of earlier numbers, if they are available, will still be supplied to Members at the existing price of 3s. od. post free.

### Journals Not Delivered.

Members are requested to note that where the Post Office authorities have been unable to deliver JOURNALS they are automatically returned to the Institution and no further copies are posted pending receipt of a new address.

Changes of address should reach the Secretary's Office not later than the first day of the months on which the JOURNAL is published, i.e., February, May, August and November.

### Remuneration to Contributors.

Remuneration is now made for all articles and reviews published in the JOURNAL unless authors specifically state that they do not desire it.

### Back Numbers.

Will Members please note that no further old JOURNALS are required, the numbers of each back issue being now completed.

## LIBRARY NOTE.

### Facilities for Borrowing Books.

The special attention of those Members who are now paying the new annual subscription of £1 5s. od., is invited to the fact that they are thereby entitled to the full privileges of the lending Library without further charge. These include the right to have sent to them not more than four volumes at a time on loan, the Member paying postage both ways.

Old Members who have not wished to conform to the new arrangement and who are still paying the original subscription of £1 1s. od., must pay an additional subscription of 10s. od. per annum in order to belong to the lending Library.

All Members are, of course, free to use the library when they visit the Institution.

### R.N. College Greenwich.

The Library of the R.N. College, Greenwich, has a complete set of the JOURNALS of the Institution with the exception of June, 1912 issue. Should any member have a copy of this issue to spare would he kindly communicate with the Librarian, R.N. College.

# THE JOURNAL

OF THE

# Royal United Service Institution

**Vol. LXXII. FEBRUARY, 1927. No. 485.**



**[Authors alone are responsible for the contents of their respective Papers. All communications (except those for perusal by the Editor only) should be addressed to the Secretary, Royal United Service Institution.]**


## ANTI-AIRCRAFT DEFENCE

By MAJOR-GENERAL E. B. ASHMORE, C.B., C.M.G., M.V.O.

On Wednesday, 24th November, 1926, at 3 p.m.

GENERAL SIR WALTER P. BRAITHWAITE, K.C.B., G.O.C.-in-C. Eastern Command, in the Chair.

THE CHAIRMAN introduced the Lecturer.

### LECTURE.

#### I. AIR DEFENCE IN GENERAL.

I propose to consider the general question of Air Defence only in so far as is required to show the need for a ground organization and the place of the latter in schemes of defence. I will then confine my remarks to the organization and work of the ground troops and the Observer Corps.

(*i*) *Historical.*—In the late war, air attack and air defence both started from infancy and grew up in a series of bounds, first one and then the other getting the best of matters.

The early aeroplane raids of 1914-15 were negligible as military operations. But the airships grew to be a serious menace towards the

end of 1915 and the beginning of 1916. By the end of 1916 the defence had completely got the upper hand of them so far as London was concerned. The fall of Mathy, the best of the Zeppelin leaders, at Potter's Bar, in October, 1916, was the last occasion in which an airship commander knowingly or deliberately approached London.

The day raids by aeroplanes in force began in the summer of 1917. They culminated in two quite successful raids on London. The defence was, at that time, distinguished by a total lack of co-ordination between action in the air and action from the ground. When I took over the conduct of the defences shortly afterwards, I was given a much better chance than my predecessors, in that all the means of defence were put under one command, an essential of air defence.

The day raiding then ceased completely, after two abortive attempts which were stopped, one about Southend and the other, with considerable loss to the enemy, about Ramsgate.

The last phase then opened. This was night raiding by aeroplanes, to which at first there appeared to be no answer. However, by May, 1918, the improvements in shooting, searchlight work, aprons, communications, and above all, night aeroplane patrolling with ground co-operation, finally proved sufficient to stop raiding over London; again with heavy loss to the raiders.

The defence thus ended on the top of the wave; it is to be hoped that, if we ever have to begin again, the defence may start in the same fortunate position. To produce this result, a certain continuity of policy is desirable.

(*ii*) *Theories of Defence.*—At the end of the war there existed two schools of thought regarding air defence. One school believed that the only way to prevent being bombed was to bomb the other side. The opposing school was more of the parish-pump order, and advocated defence close round each vulnerable object.

The latter school pointed out, with some justice, that the aerodromes from which London was bombed were perfectly well known, and that, although efforts were made to bomb those aerodromes, yet bombing London was hardly even checked until the defences in this country obtained the upper hand. In fact, this bombing only ceased when our guns and aeroplanes got down enough Germans to make it no longer expedient to come over. Against this it may be said that the Air Force in France had many other objectives besides these particular aerodromes, and that bombing did actually help in stopping raids.

The passive defence school also cited the fact that the German aerodromes were intact enough for Paris to be bombed sixteen times after London was free.

The argument in favour of defence as opposed to counter bombing also received further support from events in France in 1918. In the neighbourhood of Arras bombing had become intolerable, and all attempts

to stop it by counter bombing had failed. A squadron trained in the London Defences was sent over with its searchlights; in a very short time this squadron shot down twenty-six bombers and completely stopped the attacks without any loss to our own pilots or machines.

(*iii*) *Plans.*—True air defence is probably a judicious combination of bombing and defence. That is the plan now being followed in the defence organization of this country. In home air defence, history, I think, establishes that the fighting aeroplane is the first and principal means of defence, but that it requires the help of a considerable organization on the ground, if our own pilots are to obtain touch with the attack by day, and still more by night; and that there are times and places at which defence from the ground may be the only means available.

(*iv*) *Some Suggestions.*—During the war we were constantly approached by well-meaning people who made suggestions for stopping raids. One was to send up aeroplanes very high and sprinkle sulphuric acid on the approaching enemy. Another idea, a scheme of lighting, was sent to me with the blessing of the Air Board. This would have been so expensive that it would have been cheaper to move London. Another plan was to blow carborundum powder into the higher air where it would get into the German engines and stop them. This got as far as experiment: an engine was put to revolve on a bench at Farnborough and carborundum powder was blown at it. The more it got the better it went. Even nowadays we are not free from death rays and other impossible suggestions, some of which come very seriously from very serious people. There is no royal road to Air Defence, which requires a great deal of hard work and organization: organization of work in the air combined with an efficient ground organization.

## II. A.A. Troops Organization.

(*i*) *The present organization of the A.A. troops* for Home Defence is the outcome of the recommendations of a Joint Committee that sat in 1924. The units are provided by the War Office, but are under the Air Ministry for operations.

Two Air Defence Brigades are stationed in London. Each Air Defence Brigade has two brigades of artillery, a battalion of searchlights and a signal company. The A.A. artillery brigades are made up of three batteries, each with eight guns. The searchlight battalion comprises three companies each with twenty-four searchlights.

For work with the fighting aeroplanes there are independent searchlight companies of which we are now engaged on forming eleven.

Some guns for use outside London are stationary at one battery for the present.

An Observer System is partly organized. I will describe it later. The Coastal Watching System is in the experimental stage.

In 1924 the Air Defence Brigades in London had been in existence for two years. They were still very weak; the strength of the four artillery brigades averaged 100, and recruiting was stagnant. In 1925, therefore, we organized an intensive recruiting campaign which was very successful. These four artillery brigades now average 400 apiece, i.e., between 80 and 90 per cent. of their establishment.

(*ii*) *A.A. Troops Establishments.*—This brings me to the question of the establishment of these A.A. units. The Under Secretary of State for War, speaking at a recruiting meeting a fortnight ago, reaffirmed the principle governing the strength of the Territorial Army at large. He said: "It is necessary to produce in times of peace efficient officers and non-commissioned officers of the Territorial Army who could at once on mobilization, start to train the flow of recruits who would pour in as soon as the necessity arose."

Now this method, quite plainly, cannot apply to the A.A. units, which, if they are ever wanted, will be required at full strength and fully trained at a few hours' notice.

The very term peace establishment, does not fit their case. For what is peace establishment? It is an establishment lower than war strength, which continues to the moment of mobilization.

In the case of the Regular Army, peace establishment is raised to war establishment on mobilization, by taking in reservists, already trained and organized. The Regular Army can, therefore, reach its war strength in a few days' time.

The Territorial Army at large, following the principle re-stated by Lord Onslow, begins, when the emergency arises, to enlist untrained recruits and proceeds to train them: a process that must take some weeks or even months. This, clearly, will not do in the case of A.A. units for Home Defence, which, as I say, are required to be ready at a few hours' notice.

In principle, therefore, the peace and war establishments of these A.A. units must be identical; this principle was accepted two years ago, and is seen in their existing peace and war establishments. The international situation may, however, be such that, at any given moment, economies may be effected for the time by restricting the number of recruits that are to be enrolled.

(*iii*) *Raising new units.*—Two years ago, searchlights for work with defending aircraft did not exist at all and had to be organized from the start. Two companies were obtained by converting the Tyne Engineers, who had an old connection with A.A. work, and the Kent Fortress Engineers. The whole are being raised as independent companies, organized for peace in groups under a lieutenant-colonel on a county basis. Four companies come from Essex, two from Kent, which are grouped with one from Middlesex and three from Surrey; these, with the Tyne companies, make up a total of eleven companies. The

start of the remaining units is not yet sanctioned. Recruiting for these new units presents considerable difficulty. We cannot, and, I think rightly, we do not embark on building a number of expensive headquarters until there is some assurance that a unit can be raised in any particular locality, that is until a certain number of recruits have been secured. But it is extremely difficult to get recruits until headquarters have been provided and the social amenities which are such an important inducement in Territorial recruiting. So we get into a vicious circle—we cannot build until we get recruits, and we cannot get recruits till we build. Hired headquarters have to be provided, which in many cases are inadequate both from the military and the social points of view. It says a great deal for the energy of the commanding officers and for the patriotism of the men that we have got so far as we have.

There is another difficulty with these Searchlight Companies : their equipment is highly technical, rather delicate and very costly. Hired headquarters are generally not at all suited for the storage of such gear. We have not, in these days, the financial advantages that obtained up to 1924, when, for two years, four A.A. batteries had drawn full establishment grants though they had not twenty men between them.

As we progress in headquarters, so does the problem become easier and I have no doubt that these units will eventually be brought up to establishment.

(*iv*) *Role of A.A. Artillery.*—The role of A.A. artillery is to destroy enemy aircraft. Sometimes, especially in the field, it may be more important to prevent machines doing their work than to destroy them. Guns are useful in breaking up formations and making easier the attack by our fighting machines. Then A.A. fire often helps in directing the attention of our pilots to the enemy.

In common with all units of air defence, the gun positions have to report the enemy activity.

(*v*) *The Problem.*—We are accused of making a mystery of A.A. work. Every subject has a certain mystery to people who have not studied it. There is no particular mystery about this subject, but it presents some difficulty. It is no good shooting *at* the machine ; by the time our shell gets there, the machine may be a mile or two away.

We have to arrange a meeting between our shell burst and the opposing pilot. We have to arrange the time and place. Often when we have done our part correctly, the pilot will fail us at the rendezvous, having changed off into another direction. This is very annoying, if sometimes inevitable. But A.A. fire is not a matter of trial-and-error ranging as practised on the ground. We set great store on a first sudden burst of fire, before the pilot knows he is under fire. Now a great many of the pilot's tasks in the air are hampered if he has to keep " jinking " the whole time—photography, artillery and other observation, flying in

formation, bombing. A.A. guns will get good chances in the future as they have in the past. They will be able to make better use of those chances than formerly.

(*vi*) *Prediction.*—In arranging our shoot we have to make an assumption; we take it for granted that the height will not change much during the few seconds our shell takes to get to the target. This is the least variable factor in the course. Our success depends on our getting the height correctly. This was difficult in France on account of indifferent height-finding appliances. We have improved since then. There is always a difficulty in observing fire, for the one man, who has no idea whether his shell is bursting at the right height, is the man at the gun itself. Often, talking to people who lived round about an A.A. Section in France, you would be told "Our Section here is wonderful, they are always on the target. All the other Sections are rotten." Their own gun was getting the height just as badly as the rest, only they were not in a position to observe the error.

We can, and do, arrange for distant observation from other gun stations. This may not be of much use for correcting fire at the moment, but at least it prevents people shooting away, day in and day out, in blissful ignorance that their height is wrong.

Now for our shoot. To take a simple case: an aeroplane coming straight in towards the gun. We range in fuze lengths. The first complication comes from the fact that fuzes burn a different pace in high air, and the time taken to get to the 15 curve, for instance, is not always fifteen seconds. We take the height as the machine approaches. He comes on near enough for us to choose fuze 15. Our gun has to be laid off at an angle to the machine; to get at this angle—deflection—we measure the advance of the machine in angles. Another complication—the machine flies at a constant speed, say 50 yards a second, but the angular rate of change is not constant, it is always varying. Our prediction will have to allow for this. Now we have to know the moment when to fire; from that moment the advance of the machine and the flight of our shell must take equal times. Here we get into a vicious circle, the fuze setting depends on the deflection, the deflection depends on the travel of the machine in the time of flight of the shell, and the time of flight depends on the fuze setting.

We require a mechanical device which will strike a balance with all these factors. The Vickers Predictor, a recent invention, does this very well.

(*vii*) *The Vickers Predictor.*—This instrument gives our fuze setting and deflections from moment to moment. It shows the moment when to fire. Various corrections for wind and so on are included.

We have recently made a further advance in predicted shooting; gunners will understand if I say it is Case III. In ordinary language this only means that the predictor moves dials at the gun, and at the

gun no one has to look at the machine over sights, all you have to do is to keep pointers following up on the dials.

The Vickers Predictor is a very notable advance. Unfortunately, I think, it was sold early on to go abroad, admittedly with an insufficient knowledge of its value.

(*viii*) *Results.*—I have a few figures of the effect of A.A. gun fire. Some of them come from U.S.A. and I give them for what they are worth.

1917, it took 8,000 rounds to bring down a machine.

1918 early, it took 4,550.

1918 late, it took 1,500.

Of all the machines brought down, French, German and Italian, roughly one was shot down by A.A. guns for every four shot down by machines in the air.

There is one point to remember. When an A.A. gun misses, everyone for miles around sees and says " rotten." Artillery results on the ground are usually seen by few, if at all. A good many shell were fired on the ground. It would be interesting to know how many shell it took to kill a man. But you will say, and rightly, that artillery fire on the ground produces a great deal of effect, apart from man killing—quite so. The moral effect of A.A. fire is at least as great. For every machine brought down hundreds were driven away or prevented from doing their work.

(*ix*) *Practice.*—Since the war we have advanced in practice methods. Five years ago we could only shoot at smoke bursts drifting slowly in the wind. Four years ago we began shooting at an actual aeroplane, with reduced charges. We can reproduce all the prediction effects, and if the predictions are correct, it looks from the gun exactly as if you were hitting the target, although the burst is really some thousands of feet short.

Last year we added the sleeve target as a method: a large sleeve towed by a machine with about 2,000 yards of cable. With this target we can predict exactly as in real life and we include the height element. But the sleeve can only be used as a crossing target for reasons of safety, whereas the reduced charge can be used on all courses.

A.A. gun practice is now more like the real thing than any other form of gun practice or musketry, except perhaps seaward gun practice. Practice results:—Rounds within $\frac{1}{2}°$ accuracy: 1924, 3; 1925, 7·5; 1926, 11.5 per cent.

We can, I think, look forward not only to improved A.A. shooting, but to a different order of shooting altogether.

There is one common error that exists; it is to consider A.A. artillery as the only A.A. organization on the ground. In reality searchlights, observation and intelligence work are as important, to say the least of it.

(*x*) *Searchlights.*—Searchlights are used to co-operate with our own defending aircraft or with A.A. guns ; they are not used otherwise.

We shall not see again what at one time used to happen in and round London—it was called searchlight patrolling. It consisted of turning on a large number of beams to wave about in the sky whenever a raid was threatened, irrespective of whether enemy aircraft were there or no.

The role of the searchlight is to point out or illuminate enemy aircraft for the defending machines, to illuminate them for our guns. Another role is to obtain and forward information as to height, course and so on. This intelligence work is done through a Section Control to which each light is connected. We have a long road to travel before this work will be perfect.

Searchlights are distributed about every two miles ; this enables us to cover the difficult and almost blind spot that exists vertically over each light.

Searchlight work suffers from a fundamental difficulty, much the same as our gun difficulty. The man at the projector is worse placed than anyone else for seeing the target. He is blinded by his own beam. Again it is easy for the surrounding inhabitants, all of whom can see better, to say " rotten." We try to get over the difficulty by giving the projector a long handle, some 12 feet, running on a circular rail. The directing number works from the outside end of the handle. He is further helped by spotters some 50 yards off who direct him by shouting and by a sound locator to which he is connected by telephone. Recent introduction of a more powerful beam increases the difficulty of direction and we are working hard at various ways of distant control—either by a " follow the pointer " method, or by directly moving the projector by mechanical or electrical means from a distant station.

(*xi*) *Searchlight Training.*—Up to three years ago the few searchlights we had were sent to train at an artillery practice camp. The majority of the lights could not train properly without interfering with night gun practice. This year for the first time we had a purely searchlight practice camp for all searchlight units at Manston. Manston is close to Margate, which is no disadvantage from the Territorial point of view. There we had a lay out of lights at proper intervals and with all control and telephone communications covering some eighty square miles. The camp was on the aerodrome, which made for very close liaison with the R.A.F.

Now it becomes necessary to train our searchlights with their own fighting machines. This was done last year using the regular Searchlight Battalion. In future some of the Home Defence searchlights will train in the patrol areas.

I have already said that A.A. units are in a special position in the Territorial Army as regards organization. The same is true of their

training. They have to be in action, properly trained, from the first moment of mobilization. They are under the R.A.F. for operations; they have to co-operate in war and in peace training with the highly trained regular fighting squadrons who are at it year in and year out. The R.A.F. naturally expect more than we can do with our financial and training limitations. We must face conditions of training that will be special to A.A. units.

## III. The Observer System.

(*i*) *The Need for Intelligence.*—I mentioned how air attack and defence grew from small beginnings in the late war. Very early on, the necessity for intelligence of aircraft movement became obvious.

The defences were at first in the hands of the Admiralty, who arranged with the police to telephone reports of any aircraft heard or seen within 60 miles of London. Early in 1915 this sytem was extended to include East Anglia, Northampton, Oxfordshire, Hampshire and the Isle of Wight.

In April, 1915, the War Office asked Chief Constables to send similar messages by telegram. There was naturally a great deal of overlapping.

The system was then extended to cover England and Wales—the reports to come to the Admiralty, who would inform the War Office. Warnings were issued by the Admiralty to railways and Scotland Yard only. Interchange of intelligence was also arranged between Chief Constables. The result of all this was a frightful congestion of telephone lines. An attempt was made to forbid private telephoning during raids, but the Home Secretary did not consider this possible.

In 1916 the War Office took over and a more regular system of observers was introduced. Cordons were organized 30 miles outside vulnerable areas. London was provided with two cordons and coastal posts were organized. Military personnel was used; this proved very unsatisfactory. Many of the men were of poor intelligence and of worse discipline. You cannot post little groups about the country with little to do, without their getting into mischief or into slack habits. The police were again brought in to man these posts, and only two companies of the best military observers were retained at places where constant watch was necessary, and where supervision was possible.

There was also an observer system in the Metropolis, excellently organized but used principally for reporting the results of raiding, fires and so on, and not for operations.

(*ii*) *Later Intelligence Arrangements.*—These were the systems in force when I took over the defences in the autumn of 1917.

Although some of the police messages were received in London in as little time as three minutes, the average delay was very much longer. The service was moreover very uncertain as regards negative information.

The fact that there were no reports from an area could not be taken as a guarantee that there were no bombers there. I remember one particular raid night. Apparently all machines had been tracked out and *after* I had given "all clear," a plaintive message came in from Hertfordshire to say that the "all clear" had come all right and bombs were still falling.

The aeroplane patrol work was improving at the end of 1917, but information from the cordons, etc., was not nearly quick or certain enough for the use of our pilots.

Early in 1918, therefore, I set out on a new system. The German activity was then confined to London and the South and East of it; this area was pretty well covered with the various units of the defence: coastal posts—squadrons—guns—searchlights and aprons.

A system of reporting from all these units was arranged by which their information came through certain centres, and so on to a big map in my Headquarters, the point being that during operations the lines were always through, and so the actual observers had not to ring up. The centres also spoke direct to the plotters round my table.

The necessary telephone construction work was heavy, and the system (L.A.D.A.) was not ready until after 19th May. Unfortunately, the Germans would not come again, but the system worked very well in practice; we had instant knowledge of aeroplane courses; on which orders and intelligence were sent by wireless to the patrols in the air.

(*iii*) *Beginnings of the Observer Corps.*—The reporting system was swept away with the rest of the defence after the Armistice.

On the revival of Air Defence in the beginning of 1924, it was plain that unless special measures were taken, large areas would be blank so far as any aircraft intelligence was concerned.

The principle to be followed was simple—no hostile aircraft must be allowed to move over any part of the country without its movements being known constantly and instantly at the Headquarters of the Air Defences, from which the necessary orders and intelligence would issue to subordinates concerned. On this information also depends the system of civil warnings that is necessary. To obtain the information it was necessary to cover the country, within range of bombing, with a series of posts—six to eight miles apart—provided with suitable watchers and with a complete telephone organization for quick reporting.

The opportunity to begin this organization came on a certain committee of which I was a member, and which had representatives of the Air Ministry and Home Office. We at once co-opted a G.P.O. member. The principle was accepted "that the civil population will be so vitally affected by air attacks, that the responsibility for observation and warning cannot be considered as exclusively military."

The Committee did not report till late last year, but we had been able to experiment in 1924. We organized a few posts at the required

interval round Cranbrook, which was the reporting centre. The experiment went to show that the scheme was feasible and gave us valuable experience.

(*iv*) *Organization.*—In 1925, then, I could proceed to organize the system in two zones covering the whole of Kent and Sussex. Each zone consists of a network of observation posts connected by direct telephones to an observation centre. The centres again are connected up to the Headquarters of Air Defences. The posts and the centres are manned by special constables, enrolled for this object by the Chief Constables of Counties and Boroughs.

The 1925 organization was well tested out by day and night work with the R.A.F.

After the 1925 work, the organization received the official sanction of the Home Office and War Office, and the general terms of service for the special constables were fixed.

I was able last winter and spring to organize two further zones, so that the system is now in working order from the west of Hampshire, through Hampshire, Sussex, part of Surrey, Kent, Essex and half Suffolk.

The method of organizing tends to become stereotyped and is as follows :—

The Home Office writes to Chief Constables, giving the outline of the system and telling them who I am. I draw up the tactically ideal lay out ; this is modified after consulting the G.P.O. to make it fit with the existing telephone lay out, and also the Chief Constables who are able to say whether the necessary men can be procured in any given place. We keep the zones as far as possible to County Police boundaries, but the telephone system does not always allow this.

Having thus settled the locality of each post, I go round with a G.P.O. representative and the local police authorities, and we choose the exact spot for the post. The G.P.O. can then get on erecting the extension lines from the local post office to a pole at the observer post itself. The police authorities collect and enrol the special constables, who must live close at hand.

I then make another tour with my Chief Signal Officer, meet all the special constables, distribute the apparatus and instructions, explain the work and orient their map. The C.S.O. explains the telephone which is the ordinary army type connected to the G.P.O. system at the special pole.

(*v*) *Methods.*—Each group of twenty-five or so posts communicates direct to a centre ; during the exercises the G.P.O. and local Post Office officials put the lines through direct, so that the observer is speaking without any ringing up to the plotter in the centre. The men for the centre—it takes about twenty including some spare men—are special constables raised in the town, generally by the Chief Constable of the

Borough. The centre consists of a map on a table on to which the observer lines are laid. Plotters sit round the table with head sets on—three posts to each plotter. As the reports come in, they are plotted on the control map with counters in three colours. First five minutes of each quarter hour red, second five minutes yellow and third blue.

When, for instance, the blue counters begin, the red are swept off, so that only the latest five to ten minutes appear on the map. This system is necessary or you will get the whole map littered with counters and not be able to see what is happening.

An independent recorder keeps a record in the same colours as the counters, using a fresh sheet every quarter of an hour.

It is possible, without putting any times on the recorded courses, to see exactly where an aeroplane was at any moment.

A man called a teller overlooks the control map, and reports to Air Defence Headquarters the courses as they appear.

(*vi*) *Results.*—From the moment that an observer sees the machine until the report is through the County centre and on to the map at Air Defence Headquarters not more than half a minute should elapse, and this standard we find quite possible.

The Special Constables show the greatest keenness and aptitude in the work, and can manage many simultaneous courses in each County. The men are of all classes : big landowners, generals, admirals, a good many parsons, chauffeurs, farmers, shopkeepers. The plotters in the centres are very often young bank clerks, who may not know their observers personally. You hear a young clerk telling off his observer for having his map crooked ; this has a curious effect, when you know that the observer at the other end is a very senior officer. However, they all take it in good part.

I have received the most ready help from the Chief Constables and their Superintendents and Inspectors and from the G.P.O. engineers. The special constables do the work for nothing—I believe they escape jury service and qualify for a medal after several years. The organization is, therefore, very cheap, about 10s. for the apparatus at each post, a little G.P.O. telephone construction, and a small annual charge for maintenance and the use of lines during tests—about £150 for each zone. Most of the expense is really money from one side of the public purse to the other, as we only use the lines when public telephoning is slack.

We are going on with the organization of another zone this winter.

(*vii*) *R.A.F. Co-operation.*—In this, as in all our other work, we get most excellent co-operation from the R.A.F. I showed at the beginning how the machines in the air require help in war from the ground organization. In peace the ground organization requires a great deal of help from the R.A.F. Our demands are very heavy. They are always met.

That concludes my remarks on the ground organization for the Air Defence of Great Britain. We are struggling towards an efficient defence. You need not be afraid that we shall spend too much money on it. There are a number of people whose business it is to see that we do not indulge our fancies. They are doing their work very well.

I shall be delighted to answer any questions, but I must make two conditions. I must not go further into questions of high policy, and there are a good many points that we want to keep secret—questions on such points do harm, even if they cannot be answered.

## DISCUSSION.

### Lack of Suitable Quarters.

Major-General F. F. Johnson, speaking on behalf of the Territorial Association of Essex, said that they had been entrusted with the raising and maintaining of four A.A. Companies, but that progress was much hampered by the lack of suitable and comfortable quarters at the out-stations, as well as at headquarters.

They wanted these stations to be situated, as nearly as possible, where they would be required in actual war. Sixteen new headquarters and twelve out-stations are required in their district. The War Office does not seem to sympathise with the idea of borrowing from the Public Works Loan, as is usually done for these Territorial Headquarters.

The Service is popular in the County and the Association has secured good officers, and commanding officers report that they would be able to recruit up to the requisite standard of strength if they had good headquarters.

The latter depend on funds; "if we cannot get the funds, we cannot get the recruits."

### Co-operation from the Mercantile Marine.

Captain Selwyn M. Day, C.B.: I would like to raise a small point connected with the ground organization. It seems to me that the seamen in the Port of London, who have not been mentioned amongst the men referred to as being of possible assistance in the ground organization, might be included and might serve a very useful purpose. It seems likely that, in the event of war, an enemy might concentrate an attack on the docks. If that happens to be the case, I hope it will be remembered that each ship has a certain organization within itself and could take action, if necessary, for the prevention of fires and such calamities. Simple regulations might be issued to shipmasters that, in times of national emergency, the crews ought to remain on board. Then if fire occurred on board or near the docks, the master would be authorized to take such action as seemed to him necessary, and then he would be indemnified for any such action that he took. In the docks of London, millions of pounds worth of valuable stores and provisions are stowed away all subject to destruction by fire. These might be saved if the men mentioned above were given some place in the general scheme of defence and the masters authorized to act without further reference in the event of air raids.

### Mobile Anti-Aircraft Batteries.

Admiral Sir Reginald Tupper: I would ask the lecturer if he can tell us anything about mobile defence against aircraft. It seems to me that, instead of having fixed defences, it would be an advantage, now that we have mechanicalized artillery, to be able to move anti-aircraft batteries quickly to any desired point, because it would prevent our enemies from knowing in advance where to expect to find an anti-aircraft battery and might altogether mislead them in bombing attacks. The observation stations would, of course, remain fixed, and could communicate with the guns by W/T or field telephone.

### Opportunities for Officers with War Experience.

Mr. R. Harcourt: I did not quite gather whether officers who were attached to the anti-aircraft guns during the late war had been invited to apply to join these Anti-Aircraft Companies, or whether they are already full up. I would ask, therefore, if there is any opportunity for officers who served with these guns during the war to serve once more, or whether any opportunity will be afforded to them to keep their knowledge up-to-date with a view to rejoining.

Lieut.-Colonel J. Wynes: I have been wondering whether it would be of any utility to send in one's name as a potential observer for an area more in the hinterland. I come from North Bucks.

### Lecturer's Reply.

Major-General Ashmore: The question of the Essex Companies, which was raised by Major-General Johnson, exercises my mind just as much as it does his. Essex is different from most of the places in which we are raising the Searchlight Companies, in that we cannot draw on any large towns or boroughs. That is one of the reasons why we have to spread the organization over sixteen headquarters in that county. I myself would like to see a large amount of money borrowed for the purpose we have in view, but I, personally, have not the power to borrow it.

With regard to the question of mobility raised by Admiral Tupper, the defence is not really immobile. All the guns are capable of being moved. As to the zones in which aircraft work, there is a great deal of organization on the ground in connection with searchlights and communications, but, with suitable organization beforehand, the zones can easily be made movable.

The units are at present fairly forward so far as officers are concerned, but we are willing and anxious to employ officers who have war experience. If the organization is increased to bring in the outer gun defences, there will be scope for more officers.

There is no hinterland. We propose eventually to cover all the country that is within range of hostile aircraft from the Continent with an observer system, so that it will be impossible for a machine to move anywhere without being reported. Special constables are enrolled who live near the posts; I hope that I may be able to organize a post in the last speaker's village.

### The Chairman.

I think we have listened to an extraordinarily able lecture which those who are not well up in aircraft work will have found most instructive. Personally, I was much interested to hear what General Ashmore had to say about ground

troops. It is often said of the Royal Air Force: "What a lot of men they employ who never go up into the air," but I think sometimes it is forgotten how necessary it is, in order to have fighting machines in the air, to have their necessary complement on the ground, especially at night. I think those who make such remarks perhaps betray their ignorance. I think a great deal of our comparative failure at first was due to the fact that there was not sufficient co-operation between the ground and the air. I also commend to your notice this very useful, cheap and interesting work of the Observer Corps. It seems to me that that is work which any intelligent person can do, and which is extremely valuable to the country. Anybody who does it, is in a position to feel that, however old he may be, he is still helping the country.

The question relating to establishments is a thorny one. It may be very desirable to have peace and war establishments identical, but unfortunately there is something which rules us which is more powerful than our desire for efficiency, and that is a thing called finance.

Ladies and Gentlemen, it is laid down in the wisest of all Books that a man cannot serve two masters. General Ashmore has to serve at least three masters belonging to different Services, of whom I am one, and therefore I expect you will agree with me when I say that he must be a sort of superman. Anyhow, I am sure you will agree that our thanks are due to him for this most instructive lecture.

The resolution of thanks was carried by acclamation.

Admiral Sir Reginald Tupper, G.B.E., K.C.B., C.V.O. moved a resolution of thanks to the Chairman which was carried by acclamation, and the meeting terminated.

# THE HIGHER CONTROL OF WAR

By Lieut.-General Sir Edward A. Altham, K.C.B., K.C.I.E., C.M.G.

Governments and War: A Study of the Conduct of War. *By Major-General Sir F. Maurice, K.C.M.G., C.B., Hon.LL.D. Camb.*[1]

Soldiers and Statesmen, 1914-1918. *By Field-Marshal Sir William Robertson, Bart., G.C.B., G.C.M.G., K.C.V.O., D.S.O.*[2]

LORD SALISBURY, as Sir Frederick Maurice reminds us in his book, when Prime Minister during the Boer War, declared: "I do not think that the British Constitution, as at present worked, is a good fighting machine," and pointed out that every war of any importance in which Great Britain had been engaged in the 19th century began badly for the British armies. "We cannot," he added, "have been so unfortunate as to have fought four times and to have lighted upon the most incompetent and worthless ministers the world has ever seen." General Maurice himself testifies to having heard Lord Kitchener exclaim in 1915: "Ah! if only we had thought of organizing our Government for war!"

Were these criticisms of a great statesman and a great soldier justifiable? Is there need for the special organization for war of the executive of a democratic Government? If so, what form should such organization take?

These are questions, on the correct answer to which, the future fate of the Empire may well depend. The whole community has rightly set its mind on the maintenance of peace, but it is written indelibly in the pages of history that peace is of a certainty endangered by the neglect of all preparation for war, and here is a vital problem, the solution of which can by no conceivable ingenuity be construed into a desire for war or a threat against other nations.

[1] William Heinemann, Ltd., London. 8s. 6d.

[2] Cassell & Company, Ltd., London, Toronto, Melbourne and Sydney. £2 10s. 0d.

The two books under review are written independently and in the main from different angles of vision. "Governments and War" is a republication of a series of lectures delivered in 1925-26, at Trinity College, Cambridge. They contain certain apt allusions here and there to the events of the Great War, but the purpose the writer sets before himself is to analyse the relations existing during the Civil War in the United States between the executive government and the commanders-in-chief of the Confederate side, and the executive government and the commanders-in-chief of the Federal side, and to make clear the effect of these relations on the duration and final issue of the struggle.

Before entering on these matters, it may be as well to note that both Maurice and Robertson are definite in holding that the executive government must retain the supremacy with which it is invested by the constitution. Indeed they make it clear that, apart from constitutional principles, a soldier, however capable a military leader or responsible military adviser, is not qualified by his training and upbringing to steer the ship of the state through the troubled waters of war. Maurice, further too, indicates that the problem of the supreme conduct of war was somewhat more simple for both sides in the American Civil War, than for most democratic states, seeing that under the constitution of the United States—which in this respect was observed by both Federals and Confederates—the President is, in virtue of his office, the Commander-in-Chief of the Army and Navy. He admits that this provision has its dangers. Neither Lincoln nor Jefferson Davis could resist the temptation of exercising the military functions of commanders-in-chief, usually with ill success, until finally Davis was forced by public opinion to hand over these functions to another, while Lincoln surrendered them of his own volition. Yet the constitutional investment of the President with the supreme control of the fighting forces of the state assured at any rate that the sceptre of responsibility was securely placed in the hands of one individual, and not spasmodically tossed about from one group or committee of politicians to another, as the whim of the moment and the varying currents of public opinion might seem to demand. The crucial issue therefore for both Federals and Confederates, in the supreme conduct of the Civil War, was not who was responsible, but how that responsibility was exercised. Did statesman and soldier each carry out his own proper functions, or did either fail by insufficient support of, or by undue interference with, the other?

To take the Southerners first. General Maurice justly acquits Jefferson Davis of the charge of being a mere blunderer. His military experience was of great value when he was shaping his administration. Later he was tempted to rely unduly on that experience, and to take too much on himself, a not uncommon failing with ministers who have a smattering of professional knowledge. Yet Lee, A. S. Johnston, J. E. Johnston and Beauregard, were at the very outset appointed to high command. "It is indeed rare," Maurice remarks, "that the selection

of four commanders, made before a shot was fired, proves to be more than justified at the end of a long war." Davis indeed foretold the war would be a long one, and induced Congress to enlist men for twelve months and to give him unlimited power to accept volunteers for the duration of the war. In April, 1861, he caused a Conscription Act to be passed.

But though Davis showed vision and firmness in dealing with these important matters, he failed to evolve a sound method for the control of operations. At the outset he inaugurated a thoroughly faulty system of command, organizing the Confederate forces of the South in geographical military departments, instead of armies. Though lacking in all experience of higher command, and peculiarly sensitive, like all politicians, to local clamours and panics, Davis took upon himself the strategical control of his military commanders, and even on one occasion after Bull Run made a precedent for a British statesman by dashing up to the front and issuing operation orders to the troops on the spot. For a few brief months he was a popular hero, then the price of lost opportunities had to be paid.

Yet in the gloom of the menace of Federal forces closing in on the South, Davis " appeared at his best " and " did a brave thing." Lee had hitherto commanded a force in Western Virginia and had not achieved much success. He was now summoned to Davis' side as military adviser and charged with the conduct, under the President, of all the military operations in the Confederacy. His functions were, in fact, those of a C.I.G.S., but to those were quickly added the executive command of the Confederate Army gathered on the Chickahominy for the protection of Richmond ; Johnston, his predecessor, having caused, as McClellan was causing in the North to Lincoln, much anxiety to Davis by keeping him in the dark as to the actual measures taken for the safety of the capital. In both cases this anxiety did harm strategically. General Maurice's comments on it are pertinent :—

" Neither Johnston nor McClellan understood that the head of the State has the right to be assured, when the State is in danger, that everything is being done for its protection. The ' damned politician ' is often a nuisance to the soldier, particularly when he pretends to military knowledge which he does not possess, but the statesman is, even from the purely military point of view, the indispensable ally of the soldier and should be treated as such. It is a peculiarly difficult matter for the general in the field to think just how much of his plans he should make known to his political chief. . . . General Nivelle, in 1917, made the mistake of explaining to the allied statesmen the complete details of a very ambitious scheme which in the end could not be carried through. But it may be taken as a general rule that, if the soldier does not satisfy the statesman as to the protection provided for the vitals of the state, he is likely to suffer far more than he will gain by secrecy."

Davis undoubtedly recognised that Lee was markedly superior in ability to all others, but failed to devise a system by which the Con-

federacy could reap full benefit from Lee's great gifts. Davis entrusted to him, it is true, the most important command, that in Northern Virginia, and even proposed that while retaining that appointment he should direct the other Western Armies, a suggestion which Lee rejected as quite impracticable. But he resumed into his own hands the general control of strategic policy, and while sanctioning Lee's great offensive thrust northward, failed to appreciate that that offensive stroke was the one chance of ultimate victory and should be supported at all costs. The Confederate President's mind was in fact beset and cramped with anxieties for local defence, and by a vain hope of foreign intervention. He lacked not only the training needed for the responsibilities for high command, but, also, the power of strategic vision.

How came it then that Lincoln, a man altogether without practical experience in military administration either in war or peace, succeeded where Davis failed? Maurice's epitome of Lincoln's mental attitude in the first stage of the great struggle gives the key to the riddle :—

" Lincoln had from the first, and throughout the War, a very definite military policy. He said that he made no pretence of being either a military leader or a financier, but he was enough of both to know that when a nation goes to war, it must push the war with some vigour, or the nation would be demoralised and bankrupt. He wanted the greatest possible military pressure brought to bear upon the South at the earliest possible moment, but he did not know how to translate this policy into suitable instructions to his generals. He required a military interpreter of his policy as well as a commander of his armies and it took him some time to discover that need."

" To discover that need "—that was the task before this rugged, self-educated man of the people, in whose hands fate had placed practically supreme power in the hour of his country's supreme trial—to discover, what had not yet been determined in any state in the world, least of all a democratic state—how to co-ordinate in war the relation between the responsible statesman and the responsible soldier. Lincoln did not solve that problem by any heaven-sent inspiration, or sudden flash of genius. Its solution was won only after a grievous time of sweat and blood and is mainly attributable to the President's absolute selflessness, singleness of purpose and shrewd common sense. It was inevitable that before its attainment mistakes, even grievous blunders, should have been made but it is the life crown of the greatest national leader of the nineteenth century that he should have saved the unity of his nation by evolving a new and sound method for conduct of war by loyal, trustful team work between statesman and soldier.

It was no easy matter to depict concisely, yet informatively, this unique story of the saving of a nation, of the abortive beginning with Scott—" a soldier of distinction but old in mind and body "—as head of the war department at Washington; of the full trial of the secretive and self-confident McClellan, who for a time was allowed to attempt the

impossible triple tasks of responsible military adviser to the President, Commander-in-Chief of all the Federal forces and the executive commander of the main Federal army; of the disastrous but brief period when Lincoln attempted to direct personally the movements of the Federal Armies; of the trial of General Halleck as C.-in-C.; and finally, of Lincoln's supreme courage in selecting Grant to succeed Halleck, though Grant had but a few months before been most unfavourably regarded by popular opinion, Halleck being retained at Washington as chief of the staff. Yet all these matters are clearly and picturesquely set forth in two chapters of Sir F. Maurice's book, a short fifty pages. Every line of these pages should be pondered over, for they enforce vital lessons, the need of a definite comprehension of the limitations of the respective spheres of statesman and soldier, of the supremacy of the former in the shaping of policy, not only by virtue of his being the head of the executive of the state, but having regard also, to his political knowledge of the state's needs and desires. They show the disastrous consequences which arise, if, when policy has to be interpreted into strategy, the statesman intrudes into the soldier's sphere and attempts without expert knowledge to play the role of chief of the staff or commander-in-chief. But above all the story of the saving of the Union by Lincoln and Grant emphasises the paramount need of mutual confidence, mutual loyalty and mutual frankness between statesman and soldier.

Yet valuable treatise as "Governments and War" is, its importance is altogether overshadowed by Sir William Robertson's "Soldiers and Statesmen, 1914-1918." For in the latter the higher direction of the military forces of the Empire in the Great War is for the first time set forth in a clear analysis by the only living British soldier who is in a position to base his statements on personal knowledge of the actual facts. Sir William Robertson was the responsible adviser of the Government for more than half the war, and that during the period when the final issue seemed most open to doubt. Eminent statesmen and some soldiers have already written freely on the points of controversy involved, yet it was of vital importance to the future of the British nation that clear light should be thrown on these by the one military authority who is in a position to give it.

One of the most valuable chapters in the book, although covering familiar ground, is its opening summary of the "Genesis of the Expeditionary Force." Lord Oxford, in a memoir written since the war, declared that as early as August, 1907, the Government had investigated the whole of the ground covered by a possible war with Germany—the naval position; the possibility of blockade; the invasion problem; the continental problem; the Egyptian problem.

How came it then that our military preparations aimed at no more than the dispatch overseas of the six divisions of the Expeditionary Force, although, as Sir William Robertson points out: "the Chief of the Imperial General Staff must have known that much larger forces

would be needed before we could hope to emerge successful from a great war in Europe ? "

Why was the strong emphasis laid by the Duke of Norfolk's Commission after the South African War on the vital necessity for preparing in peace time for the expansion of our forces in war totally ignored ? Why was it not realised, when (to quote again the Field-Marshal), " a very crude forecast would have shown that the British Army was much under-gunned, and the reserve stocks of ammunition were, having regard to the rapid rate of fire, much too small ? " In his notable summing up of a discussion of these questions, Sir William Robertson places a heavy weight of responsibility on the soldier. He says :—

" If the Army Council did not definitely and officially represent that the men and material procurable under the existing system were insufficient to meet possible liabilities, the Government may justly complain that it was not well served. If, on the other hand, the Council kept the Government informed of the position, and if, in their judgment, the interests of the nation continued to be imperilled, they ought to have considered whether they were justified in remaining in office. Not everyone will agree with this view, but it seems to me that unless responsible soldiers are prepared in times of national danger, to risk some personal sacrifices for the sake of their country, they will never either win or deserve their country's esteem."

But if the soldiers shared with the statesmen responsibility for insufficient military preparation, the statesmen alone were responsible that no thought whatever had been given to a better shaping of the executive Government itself for the conduct of a great war. Seventy years earlier Lord John Russell had referred acidly to " the experiment of carrying on war by means of Cabinet Councils." Another Prime Minister's warning, uttered after the black week of December, 1899, has been already quoted. Yet it was this same experiment of carrying on war by means of Cabinet Councils that we not only retried at the commencement of the Great War, but continued for many months till Mr. Lloyd George became Prime Minister. It is true that a committee under the Cabinet was permitted, under various names, to discuss and make regulations as to war plans, but the score or so of politicians in the Cabinet continued to determine the policy of supreme command in the various theatres of war, constantly increasing in number, and to insist that all important decisions should be referred to them before action was taken. To Mr. Lloyd George belongs the credit of replacing this cumbersome body by a War Cabinet of five, with unrestricted control over the whole war business, and no departmental duties of their own to distract their attention from that vital issue. Later, in 1917, the Imperial War Committee was formed, to admit of the Overseas Dominions being represented, but the members of the War Cabinet continued responsible for the conduct of operations and the war policy in general.

Thus for the first two years of the war the executive of the British Empire was worse organized for the conduct of war than either Federals or Confederates in the American Civil War. Twelve years before the Great War the General Staff had been organized and established with the universal consent and approval of the nation. It had won the confidence of the Army and its advice in the peace years preceding the war was repeatedly quoted by the Government of the day as reliable and indeed authoritative. Yet on the outbreak of war, the use the Government made of the General Staff was so insignificant that it might be conjectured that its existence had been forgotten, or that the Government imagined that a General Staff had only been created to advise in peace time. The great initial blunder was moreover committed of ordering the most prominent members of the War Office General Staff overseas—and this although its head, Sir Charles Douglas, had but very recently joined the General Staff for the first time—a blunder which was capped by allowing Lord Kitchener to combine for practical and executive purposes in his own person the responsibilities of both Secretary of State for War and C.I.G.S., a duality beyond the compass of any human being, however gifted in brain or experience.

These blunders soon bore bitter fruit. Whether or not it was sound strategy, in view of the situation in France and in the Caucasus, ever to contemplate the Dardanelles expedition need not be discussed here. But it is incontrovertible that the statesmen by taking its executive direction into their own hands, instead of entrusting it to the naval and military experts, rendered the occupation of the Peninsula (which if properly planned and carried out as a surprise might have proved an easy task) impossible of execution. Sir William Robertson concurs with the Dardanelles Royal Commission in holding that, in keeping silence when their advice was not specifically asked for, the experts failed " to act up to the responsibilities which in virtue of their office devolved on them." But that criticism, however well merited, cannot relieve the statesmen of responsibility for not insisting on the sailors and soldiers definitely giving their opinions on the plan of operation proposed. This fatal omission resulted in the unsuccessful employment in the Gallipoli Peninsula of nearly half a million British troops, with a correspondingly heavy expenditure of shipping, money, ammunition and stores, and nearly 120,000 casualties. Against this ill-success, may it is true, be set that the Turkish losses were more than double our own.

The story of the Mesopotamian campaign up to the fall of Kut is again a lamentable illustration of the penalties incurred by statesmen (who, however, in that instance had no intention or desire of posing as amateur strategists but did not realise who were the responsible military advisers for the whole British Empire) taking upon themselves to incur grave military liabilities without due forethought and preparation. Of wild amateur strategy in the crudest form Mr. Lloyd George's proposal in January, 1915, to withdraw the British Expeditionary Force from

France and transfer it to the Balkans is the crowning example, but fortunately, as Sir William Robertson records, " its fallacies were too flagrant and self-evident " to appeal to the rest of the Government.

The Salonika Expedition, originating in October, 1915, by the despatch to that area of one British and one French Division from Gallipoli in the hope that Greece would thereby be encouraged to intervene to save Serbia, is also dealt with at length by Sir William Robertson. Its initial purpose failed immediately and finally its realization. The subsequent developments were due mainly to domestic political considerations for which French, not English, statesmen must be held responsible. Summing up the final results of that expedition the Field Marshal says :—

" The total number of British Troops employed amounted to 412,207, the casualties in action being 26,750. The casualties due to sickness were exceedingly heavy, the admissions to hospital for malaria amounting to 160,381, of which 693 proved fatal. . . . Opinions will probably always differ as to the incidence of responsibility for the lamentable waste of life and health incurred, but everyone will agree that no praise can be too high for the resolute manner in which officers and men stuck to their thankless tasks during those three long years employment in a ' side show,' for which as an effective means of bringing about the overthrow of the enemy, few people had a good word to say. Commencing with the belated attempt to succour Serbia in October, 1915, the Expedition accomplished nothing really useful in a military sense, and it deprived the Allied Armies in France of reinforcements, which, had they been present, might have turned partial success into decisive victory long before November, 1918."

Gallipoli, Mesopotamia, Salonika were thus instances of errors in a great measure attributable to the failure at the commencement of the war to organize the Executive Government for war, and to recognize the C.I.G.S. as the responsible military adviser and mouthpiece of the executive.

But by the beginning of 1916, Sir William Robertson had been installed in that position, and the General Staff at the War Office accepted as the supreme staff authority for all the armies in the field. Less than twelve months later, Mr. Lloyd George, now Premier, created the new War Cabinet of five. By the end of 1916 therefore, the machinery of war control had at last been placed upon a business footing. The strategic situation at this time is concisely summed up by Sir William Robertson :—

" During 1915 our military resources, seen to be so woefully deficient in 1914, had rapidly increased, though they still proved to be too small for our commitments, which had grown with equal rapidity. Four considerable campaigns had been started in the East in addition to the major one in the West, and statesmen, soldiers and sailors alike had erred in expecting from them greater results than, speaking after the

event, they could reasonably hope to achieve. By the autumn of 1916 the prospect of victory had been brought nearer, and although all the allies, France in particular, had suffered heavy losses in the process, the resources of the British Empire, both in men and material, had been expanded to a degree undreamt of in war, and even had not yet reached the limit of their possible development."

On the 15th November, 1916, a conference of Anglo-French military representatives assembled at Chantilly, to draw up a plan of campaign for the coming year. The exhausted condition of the German armies on the Western Front was not then as well known as it has since become, but the importance of resuming the attack as early as possible in the spring was realized. A plan of a " decisive character " was therefore agreed upon, consisting of a series of offensives on all fronts so timed as to deprive the enemy of the power of reinforcing one of his fronts by reducing troops on another. The operations were to be commenced by the middle of February. A definite understanding was arrived at between Joffre and Haig as to the roles their respective armies were to play.

The Allies seemed then to hold for the moment in their hands the main factors for securing a decision in the ensuing year—an enemy in a condition to be hard pressed, the right machinery for war control at last established for the British Armies, a definite plan of action agreed to by the Allied military representatives, and only requiring the approval of the Allied statesmen. Sir William Robertson records his opinion that—

" If these intentions had been carried out, and assuming that all available resources had been utilised, decisive success or something closely approaching it might have been achieved before the year had expired. Unfortunately, two events occurred to interfere with this hope. The Chantilly plan was so altered as to cause serious delay in preparation, and thereby much of the advantage gained on the Somme was lost, while the revolution in Russia, beginning in the month of March, made a simultaneous offensive on all fronts impossible."

For the latter disaster neither Allied statesmen or soldiers can be held responsible, but the former—a disaster almost equal to the latter—was directly due to the Allied statesmen turning down the plan devised by their responsible military experts in favour of a delusive project of a short cut to victory tendered them by General Nivelle. Mr. Lloyd George indeed went further, for, before Nivelle's scheme had been mooted, the British Prime Minister produced at a conference in Rome in January, 1917, a project, apparently emanating from his own brain but at any rate never even communicated to the British General Staff, for a combined French-British-Italian attack on Austria through the Julian Alps.

The tragic story of 1917 is told by Sir William Robertson, with moderation and restraint, but it is evident from it that the difficulties

created by the failure of Nivelle's enterprise, and by the severe shock which that failure temporarily gave to the morale of the French Army, were seriously enhanced by the vacillations of the British Prime Minister no less than by his failure to give the British C.I.G.S. and Commander-in-Chief the support and trust they were entitled to expect, as long as they were retained in their respective high appointments. It was not that he had lack of confidence in the C.I.G.S. personally. Such a conclusion is indeed quite incompatible with the fact that when the Prime Minister left the War Office to become head of the Government, he pressed Sir William Robertson to succeed him as Secretary of State with a seat in the House of Lords ; but the root of the trouble lay in his distrust of military experts, as experts, and in his ever-recurring belief that the soldier's strategic plans were wrong and that the statesman could set everything right. Mr. Lloyd George seems, in fact, to have regarded the military forces of the Empire as a sword in his hand, the point of which he could dart now at the Balkans, now at Syria, now at the Alps or at Palestine, until perchance some weak spot could be found, some victory achieved. The problems of time, shipping, maintenance, replacement of troops, and above all the final breaking of the enemy's power of resistance seem to have been to him trifles not worth examination. The doctrine preached by Robertson that " Once the decisive theatre has been selected, it must be regarded as such, and all other theatres must be ruthlessly treated as secondary and made to do the best they can with what is given them," was incomprehensible to the Prime Minister, and probably deemed mere tiresomeness on the part of the General Staff.

Yet that Staff stuck loyally and stedfastly to its task, and, be it frankly admitted, did not lack loyal supporters amongst some of the statesmen. Moreover, 1917 saw gleams of sunshine, for, thanks to the clear orders of the C.I.G.S. and the splendid leadership of Maude, the situation in Mesopotamia had been retrieved and Bagdad occupied. Allenby, too, had with masterly skill defeated the Turkish main army in Palestine and was in possession of Jerusalem. But on the decisive Western Front things had not gone so well, the issue remained in the balance, and at the beginning of 1918 it became daily more evident that the enemy was bringing up superior forces to deliver a final stroke for victory.

Again a vital difference of opinion between statesman and soldier was manifested. The General Staff advised that the supreme need was " to assemble as large a force as possible in the west, so as to be able not merely to parry the blow which there threatened, but to hit back the moment an opportunity offered." They were further of opinion that a considerable number of the 760,000 troops retained in the East could be spared to reinforce the West. Mr. Lloyd George, on the other hand, vehemently argued at a meeting of the Supreme War Council of the Allies in favour of a further offensive in Palestine, and secured

a resolution to that effect, notwithstanding a protest from Robertson that to attempt such a campaign " will be very dangerous and detrimental to our prospects of winning the war."

" Immediately after the meeting "—Sir William Robertson tells us—" I apologised to the Prime Minister for having opposed his plan before the foreign delegates, and explained that, if I had said nothing, they might have thought I had no objection to offer. He angrily disagreed, urging that, as I had already acquainted him with the General Staff's views, there was no necessity to repeat them before the Council. This, I may observe, was quite a different attitude from the one he had taken when giving evidence before the Dardanelles Commission a year or so earlier. He then agreed with the Commissioners that if naval and military advisers present at Ministerial Councils did not express dissent, it was legitimate to assume that they agreed with what was being done."

A month later it was decided by the Supreme War Council to create a general reserve for the whole of the armies on the Western, Italian, and Balkan Fronts, and to place it under the control of a central military executive, Marshal Foch being appointed its head. Foch and Robertson, with the concurrence of Sir Douglas Haig and General Pétain had advocated the establishment of a higher control, consisting of the British and French Chiefs of the General Staff, with representatives of the American and Belgian Armies as liaison officers, the Italian Government to be given the option of appointing a General Officer to the higher control or a liaison representative but their advice was turned down.

The Supreme War Council's decision was accepted by the British War Cabinet, notwithstanding a protest of the Army Council. The Prime Minister then, in a note to the Secretary of State for War, intimated that Sir William Robertson was appointed the military representative at Versailles, and would be " absolutely free and unfettered in the advice he gives " in that capacity. Sir Henry Wilson was appointed C.I.G.S. in Sir William Robertson's place, but with the special powers curtailed, that had been granted the year before on Robertson's original appointment as C.I.G.S.

Robertson in a weighty memorandum pointed out that the placing of orders affecting military operations in the hands of two different authorities, one the C.I.G.S. and the other the British representative at Versailles, would inevitably lead to confusion and perhaps to disaster, and stated that " so strongly am I convinced of this that I am compelled to say I cannot undertake the very great responsibility involved."

Notwithstanding this declaration, the Prime Minister, after the appointment of C.I.G.S. had been offered to General Plumer but declined (Wilson being now designed for Versailles), pressed Robertson to remain at the War Office, but the latter replied declining it, though " with deep

regret," and stated " I still feel that the method you have decided to adopt must prove unworkable and dangerous."

No one has ever doubted that Sir William Robertson's decision was an act of great patriotism and self-negation. No one, who has read those two volumes with an impartial mind, can doubt that the decision was a right one. As a matter of fact the experiment of dual control absolutely broke down, and five weeks later Foch was appointed Generalissimo of the Allied Forces on the Western Front.

It would be out of place to attempt here to estimate the great debt the Empire owes to the Field Marshal for his extraordinary services and for that selflessness which caused his refusal of the highest of a soldier's ambitions on Sir John French's resignation of the command of the Expeditionary Force in France, his subsequent refusal of Cabinet rank and a peerage and later again his refusal to remain as C.I.G.S. under conditions which he deemed dangerous to the Empire ; but it is right to say that he has added to that debt by placing before his fellow-countrymen in this book the plain facts of the methods attempted by British statesmen for the higher control of the forces of the Empire in the Great War, of their relations with the responsible soldiers, and of the mistakes made and of the consequences of those mistakes. Right through the two volumes and especially in the summing-up of the last four pages, he makes clear—as indeed his own actions and attitude of mind as C.I.G.S. made clear—that in his judgment the statesman must be supreme not only with the vast amount of business, which, though directly or indirectly concerning the mobilization of the nation for war, are beyond the competence of a soldier to deal with, but, too, with the determination of the policy on which the strategy of the campaign must be based. With the statesman, too, must of necessity rest the selection of the naval, military and air Chiefs, and the replacement of any who fail to retain his confidence. Subject, however, to these reservations " military work must be left to military people."

Sir William Robertson leaves clearly established in the reader's mind that the concentration of the supreme executive authority in war in the hands of the statesman who is the executive head of the State, whether entitled President or Prime Minister, is the best solution of that problem in a democracy, the next best being a strictly limited War Cabinet. Englishmen have, however, a traditional dislike—probably dating back to the days of Cromwell—to anything appertaining to a one-man system of government. Moreover, in the higher control of the Great War our Overseas Dominions need every consideration. A small War Cabinet would therefore seem inevitable, yet its selection will not be easy, so long as the Empire remains a commonwealth of co-equal states with no federal government organized to deal with matters affecting the whole. Indeed the anomalies of the present constitutional position of the Empire, unprecedented though they are in history, and the difficulties that would be involved thereby in war time do not appear to be

yet realised. But that being so, it is the more necessary that federal machinery for the conduct of war, in case a great war, which God forbid, might come again, should be thought out and settled beforehand.

Moreover, remembering the neglect of the General Staff at the commencement of the Great War and the attempt in 1918 to establish a duality of military advice, it would be as well if the *war* responsibilities of the Chiefs of the Naval, Military and Air Staffs, as the expert advisers and mouthpieces of the Government, were declared and laid down in peace time as constitutional principles.

But whatever preparation may be made beforehand to safeguard the Empire against the defects in the machinery for the conduct of war, the crucial matter, when the hour of trial comes again, will be whether the right individuals are at the right posts. As to the Service Chiefs, chosen as they are in peace for purely professional reasons, the nation is not likely to have cause for anxiety. But what guarantee is there that the Prime Minister of the day will have studied sufficiently the lessons of the past to be able to steer the ship of Empire safely? Do all potential Prime Ministers of Great Britain at the present moment realise that the mistakes made by the statesmen in the Great War postponed final victory for a year, lost the Empire hundreds of thousands of lives, and are directly responsible for at least a quarter of that burden of debt which will long cripple the nation's industrial life? If they have yet to learn those tragic truths, Sir William Robertson's book should be the text book for their education.

# H.R.H. FREDERICK, DUKE OF YORK

## A CENTENARY APPRECIATION.[1]

By MAJOR W. H. WILKIN, late The Sherwood Foresters.

*" The best Commander-in-Chief that has ever ruled the Army."*
HON. J. W. FORTESCUE.

H.R.H. PRINCE FREDERICK, the second son of King George the Third, was born at St. James's Palace on the 16th August, 1763. On the 27th February, 1764, the baby Prince was elected Bishop of Osnaburg, and he was known by that title till he was created Duke of York on the 27th November, 1784. The Elector of Hanover had the right of nominating the Bishop alternately with the Bishop of Cologne. The last Protestant Bishop had been H.R.H. Ernest Augustus, Duke of York, the younger brother of King George the First; and it was in the palace at Osnaburg that George the First died. When the Bishopric was held by a Protestant Prince the spiritual duties were performed by a Roman Catholic ecclesiastic. This was not very widely known in England. In the year 1766 a volume of Essays was published, and dedicated " To the Right Reverend Father in God, of three years old, His Royal Highness Prince Frederick, Bishop of Osnaburg " !

On the 1st November, 1780, the young Prince was gazetted Colonel in the British Army. He spent five and a half years (January, 1781, till July, 1786) in Hanover, and devoted his time to military matters. In 1782 he was presented to Frederick the Great, and on several occasions he attended the manœuvres of the Prussian and Austrian Armies being in the meantime promoted Major-General in the British Army on the 22nd November, 1782, and Lieutenant-General on the 22nd October, 1784.

The Duke returned to England in July, 1787, where he became popular with all classes. On the 26th May, 1789, he fought a duel on Wimbledon Common with Lieut.-Colonel Charles Lennox (afterwards 4th Duke of Richmond and Gordon). He coolly received his opponent's fire without returning it, and a lock of his hair was shot away by the colonel's bullet. On the 29th September, 1791, the Duke married the

[1] H.R.H. Frederick, Duke of York died 5th January, 1827.

Princess Frederica, Princess Royal of Prussia, the eldest daughter of King Frederick William II of Prussia. The marriage proved childless. The Duchess died at Oatlands near Weybridge on the 6th August, 1820, and she was buried at Weybridge. Such was the past record of the Duke of York at the outbreak of war between England and France. On the 12th April, 1793, he was promoted General. A month earlier (4th March) he had landed at Helvoetsluys to assume command of the British Forces in the field.

When criticising this appointment, people often forget certain very important facts. Sir James Murray (afterwards known as Sir James Pulteney) was sent with him as Adjutant-General, and really as Chief of the Staff. Until the final separation of the armies in July, 1794, the Duke of York never held an independent command, except for a couple of months in the autumn of 1793 during the operations at and near Dunkirk. Apart from that, from April, 1793, till July, 1794, he was simply a Corps Commander under Coburg. Then again, even the contingent in the pay of England was only partially composed of British troops. It comprised Hanoverians and also Hessians. Now the Duke of York had spent more than five years in Germany, he was a Prince of Hanover as well as of England, and as Bishop of Osnaburg he was a reigning German Prince. There can be no reasonable doubt that these facts made him far more acceptable to the German troops in the pay of England than any other British General would have been.

We must also bear in mind that England was not acting by herself. She was a member of a Coalition, and the force under the Duke of York formed only a small fraction of the Allied Army in Flanders. The success of the operations depended very largely on the maintenance of smooth relations with our numerous Allies—not merely the Hanoverians and Hessians, but the Dutch, Prussians and Austrians. Undoubtedly there were strong family reasons for the appointment of the Duke of York. Not only was the Stadtholder of Holland, William V, first cousin to King George III, but the Stadtholder's wife was the aunt of the Duchess of York. Then again, the Duchess of York was the half-sister of the King of Prussia. It is absurd to judge matters in the eighteenth century by the standards of to-day; but even in the recent Great War it was not only in the Armies of the Central Powers that exalted rank was a factor in determining the command of Armies. In the victorious advance at the end of the War the left wing was commanded by the King of the Belgians. To return to Flanders in 1793. There can be no doubt that the princely rank of its commander was of advantage to the British contingent in its relations with the Austrian Commander-in-Chief.

The Duke of York was promoted Field-Marshal on the 15th February, 1795. He was appointed Commander-in-Chief in Great Britain on the 3rd April, 1798, and Commander-in-Chief in Great Britain and Ireland on the 9th January, 1801. In Flanders, and again in Holland in 1799,

he proved somewhat of a failure in the field ; but as Commander-in-Chief he performed invaluable work for the British Army. He set himself to the task of putting down jobbery, removing abuses, instilling discipline, and weeding out incompetent officers. One of his earliest reforms was to abolish the scandal of boys with absolutely no experience being given command of regiments, by introducing the rule that no officer with less than six years' service might be promoted to field rank. In March, 1799, he started at High Wycombe the establishment which developed into the Staff College ; and in 1802 the R.M.C. came into being at Great Marlow. The historian of the British Army has summed up the Duke's work (up to the year 1802) in the following sentence :—

> " It must suffice that in 1795 he took over a number of undisciplined and disorganised regiments, filled for the most part with the worst stamp of man and officer, and that in less than seven years he converted these unpromising elements into an Army."

The Treaty of Lunéville in 1802 required the secularization of the ecclesiastical principalities in Germany. In consequence of this, Osnaburg was annexed to Hanover, and the Duke of York ceased to be a reigning German Prince. Unfortunately, the scandal in connection with Mrs. Clarke forced the Duke to resign his appointment as Commander-in-Chief on the 18th March, 1809, but in May, 1811, he was reinstated, and he continued to hold the office till his death. His last official act was to arrange for the promotion of old lieutenants, who had been unable to purchase. This was only completed on the 27th December, 1826. The Duke died at Rutland House in Arlington Street, on the 5th January, 1827, and he was buried at Weybridge.

Everyone knows the Duke of York's Column at the bottom of Waterloo Place. There is also a statue on the parade ground outside Edinburgh Castle ; but far the finest memorial to him is the well-known school for the sons of soldiers which was moved a few years ago from Chelsea to Dover.

# S.M.S. "LÜTZOW" AT JUTLAND

By Her Gunnery Officer, Commander Paschen.

*(Reproduced by permission of the Naval Staff.)*

VERY little has been published as to the fate of Admiral von Hipper's flagship which led the German line for three hours, and had with "Derfflinger" and "Seydlitz" to bear the brunt of the fight when the Grand Fleet was encountered. In fact, I have often been asked if the ship could not have been kept afloat. Skagerrak day in the "Lützow" was the culminating point of my career in the Navy; to the ship and her crew I am bound by memories of a great and fine achievement in the service of the arm which was so dear to me. I devoted all the knowledge and ability that service and study had given me to the preparation of the ship for action, and I should not like the tenth anniversary to pass without paying a tribute in this article to the ship and her crew.

Commissioned in August, 1915, the ship broke down during trials owing to severe turbine trouble and did not join up with the battle cruiser squadron until the end of March, 1916. Gunnery trials had been very limited and hasty, but they had been so carefully prepared for that they were entirely satisfactory. As a matter of fact the first shots fired by our guns with full charges were against our enemy on 25th April. This did not worry me, for I held then, as I do now, that a ship can be sufficiently trained from a gunnery point of view without her ever having fired a shot, and that gunnery practices are only a kind of general trial. If good training material is available, officers and gunlayers can be given much harder tasks than the practices permit, with the ship generally at anchor, and a target which has little resemblance to battle conditions.

The "Seydlitz," having hit a mine on 24th April during the operation against the English coast, Admiral von Hipper was compelled to hoist his flag in the "Lützow." This ship had, by a very successful battle practice, shortly before the action, removed the last doubts as to her fitness for battle. During this, however, the uselessness of a new apparatus, on which I had set great hopes in the event of a battle, manifested itself; the mistake was only a small one of detail, but it could not be remedied in time.

So, to the pride of her crew, "Lützow," on 31st May, led the line of tried veterans into the action. I will only deal with details from my own personal observations so far as they concern the particular fate of "Lützow," in order to amplify what is already known.

When the enemy's big ships were signalled at 3 p.m. (G.M.T.) I could see battleships clearly, astern of the battle cruisers. These latter were at least 26 kilometres from us—a proof of the remarkable visibility to the West at the start. As the battle cruisers turned South, these ships proceeded calmly further to the North; consequently they got ten miles astern of the battle cruisers and could not at first take part in the action. In England critics have not failed to find fault with Admiral Beatty for his delay in making the 5th Battle Squadron join up at once.

Our rangefinders gave us good ranges commencing at 240 hm. and it seemed an eternity, actually it was twenty minutes, before we had reached our range of 190 hm. Even then we had to wait for the "Seydlitz" till the range was further reduced. Five points—57° is the enemy's bearing. Estimated speed 26 knots, course 110°. This made the rate of closing 4 hm. a minute. At a range of 167 hm. by our calculations the first turret salvo from "A" and "B" turrets was fired at 4.48 p.m. "Lützow" throughout the action fired alternate salvoes from her fore and after turrets, a system I cannot praise too highly. Both guns work as one, load simultaneously and are laid by one man. When loaded there is quiet in the turret. Gunlayers take turns at laying when necessary. The muzzle smoke is concentrated at one end of the ship; one of the controls at least can observe even under the most unfavourable conditions. Once only I fired a full salvo from all turrets, the result did not encourage me to repeat it, the salvo fell short or mostly short and covered the whole target in an enormous column of water. (In "The Fighting at Jutland," page 410, this, incidentally, is noticed). Time of flight 22 seconds. Fall 12/16 left ahead. "12 right." "Salvo." "'C' and 'D' fire." Fall! Centre over! "8 back." "Salvo." Over! "8 back." "Salvo." Straddling! A hit near the bridge. A sigh of relief and then on. It has taken two minutes for the battery to do this. What is the matter with the rangefinding? It has gone down 16 hm. As to the enemy, it appeared as though he had commenced at 167 hm., been well over, and had spent an endless time in getting on. "Lion's" first straddling salvo after nine minutes was therefore quite a surprise. A slight hit well forward on the forecastle we do not notice, nor the fact that "Lion" and "Princess Mary," the two leading enemy's ships, are concentrating on us. Our fire is now very accurate; a sharp turn of 4 points by the enemy is noticed at once. At 4.52 we secure our third hit. Red flames shoot from the third turret and a great fragment, half the roof, goes up. After a considerable pause the turret suddenly flares up but the dying turret officer has had the magazine doors closed; this saves "Lion" and the Admiral. Personally, I think that the surprising blowing up of the English ships was only due to powder catching fire and finally exploding. In our ships, powder catching fire always remained a fire, devastating for the turret concerned, but not destructive to the ship. Various circumstances persuade me that it was not projectiles exploding which was the cause.

Seventeen minutes after fire was opened " Lion " turned sharply away, until we could see her from aft and " Princess Royal " pushed in front. I counted six hits in 31 salvoes. We have been hit three times; one of these exploded between "A" and "B" turrets and cleared out the forward action dressing station. All are dead there. Hit No. 3 seems to have hit the belt somewhere, a heavy shock but nothing put out of action. Although we clearly observed " Lion " leaving the line, the fact is not mentioned in our opponent's accounts and is only alluded to inaccurately as a turning away of the whole line. This is contradicted by the fact, established by photos in " The Fighting at Jutland," that " Queen Mary " was second in the line when she blew up. It is certain that " Lion " later resumed the lead, but I cannot state when this happened.

At 5.8 we change target to " Princess Royal." Our opponent keeps on altering course sharply and these changes are hard to see through the smoke and decreasing visibility. Range alters rapidly from 151 to 130, increases equally quickly to 190 and comes down to 150 again. On the engaged side a little ahead of the enemy there is now a destroyer emitting clouds of smoke and hiding the target. As the control top of our opponent is always visible over it, I suspected a stratagem on the part of the enemy using a fire director, but Admiral Beatty explains it as an anti-submarine screen and it impeded my opponent as much as it did me. In the meantime our opponent is not hitting us, while our fire remains good and hits can often be seen. After the " Queen Mary " blew up, which I could just see in my excellent periscope in the small field of sight (our target was the ship ahead), fierce destroyer actions develop between the lines; these give the second gunnery officer the longed-for opportunity of taking part, but practically entirely obscure my target. During this time " Lion " probably took the lead again and then we resumed firing at her as we always fired at the leading ship.

The English have consistently maintained that our fire was always fast and accurate at first but soon lost its accuracy, yes, even got wild, while theirs, although slow in getting on, kept steady and accurate. Neither " Lion " nor " Princess Royal " hit us once between 4.2 and 5.23 p.m.; their total hits were three in 95 minutes. In the same period the two ships, according to their own accounts, were hit twelve times. The reason for our fire not continuing to produce the same results as in the first forty minutes was the rapidly increasing smoke nuisance and decreasing visibility. The latter ultimately became so bad that we in the " Lützow," in the critical period from just after 6 p.m. until 7 p.m., did not see a single English ship except the " Invincible," which was at once destroyed. On the other hand, we were continuously under heavy enemy fire, so were obviously visible against the comparatively clear sky to the West. In my opinion, apart from Punt's " Superiority of German Gunnery in the World War " (*Marine Rundschau*, 1926, pages 213-4), insufficient stress has been laid on the fact that during this phase,

on which the English base their superiority, the German fleet was merely a target, unable to fire a shot. From this unfortunate position Admiral Scheer extricated the fleet in a masterly manner.

But to return to the battle. One small observation at the commencement of the action was surprising and reassuring at the same time. Two of the enemy's shots ricochet from the water and speed away over us, two long white projectiles, which I recognise from their colour as "common shell"—black powder—and this observation was confirmed by the general effect of the English hits. They proved the weight of their large calibre; where they hit there was a mighty shock and a large hole. There, however, it stopped; the effect of the explosion was comparatively slight. Once we had our gunnery transmitting station full of the well-known old black powder smell at which we knowingly smile at each other. We get hit by some H.E. projectiles too, but apparently not armour-piercing shells with H.E. filling and the former had only a slight effect. On the other hand, the effect of our shells was quite different; a natural result of every hit was, as the English midshipman told us in the barrack square at Wilhelmshaven, "Every 12-in. shell blew up a quarter of the ship." He was one of the nine survivors from the "Queen Mary." But how much work, time and money had been spent on these projectiles by the gunnery division of the Navy and good old Fried. Krupp & Company! It still grieves me that in the first hour of the action, relying on general instructions and confirmed by recent advice, I did not fire armour-piercing but explosive shells. "Lion" and her Admiral would scarcely have survived the former. It is remarkable that one of the latter shells, hitting the turret roof of the "Lion" fair and square, penetrated and did not break up but exploded.

The masses of water which enemy shots throw over the ship when they fall close under her lee are very disturbing. The water comes down in tons. Our range-finding periscopes project through a 30 cm. hole in the armour plate, which gives them ample play. They are kept dry by canvas collars which, weighted with lead at the edges, lie on the surface; but, owing to the blast of their own guns, they flap up and cover the object glasses and have to be cut away; in consequence light is restored but at the expense of wet. The same rating who carried out the amputation, O.S. Hartmann, stays up above of his own free will and throughout the action lies flat on the roof and, undismayed, dries and cleans the object glasses of the water and powder that get on them. We are drenched to the skin and cannot supply his urgent demands for dry cloths. The continual obscuring of all telescopes owing to water on their glasses was extraordinarily troublesome and occasionally made the rangefinders useless. Some remedy for this was urgently necessary.

The High Sea Fleet is right ahead. The enemy battle cruisers turn at once outwards on a reverse course. We follow five minutes later, also turning outwards. This opens the range considerably; the English battle cruisers are four points ahead and withdraw to the limits of range,

which is possible for them as at 6 p.m. we reduced to 18 knots. Fire is spasmodic as visibility gets much worse. It is not until Beatty knows that the Grand Fleet is quite near that he closes. At 5.41 we are heavily fired at by him and are hit four times. Two of these pierce the large 6-in. casemate from above, destroy both W/T sets and cause severe casualties. Another bursts amidships without seriously injuring the main armour deck; but the fastenings in the gunnery transmitting station, which were underneath, came adrift and smoke penetrated everywhere. The fire control was interrupted momentarily but was restarted shortly afterwards. Our own smoke becomes a nuisance; for a short time I had to let the after position carry on fire control.

The enemy has for the moment the upper hand and I cannot get rid of the idea that trouble is brewing. Then something unexpected happened. From right to left there appears in the field of the periscope, a ship, improbably large and close. At the first glance I recognise an old English armoured cruiser, and give the necessary orders. My arm is clutched, "Don't fire, that is 'Rostock.'" But I can see the turrets fore and aft. "Action." "Armoured cruiser." "Four funnels." "Bow left." "Left 30." "Range 76 hm." "Salvo." Five salvoes rapidly follow, of which three straddled; then was repeated the now familiar sight of a ship blowing up, this time before the eyes of both fleets, for the English main Fleet could see the "Defence" although we could not see them. Astern of her comes another ship of the same class, which we leave to the ship astern of us as the English battle cruisers demand all our attention. They are astern of us to port about 130 hm. range and are scarcely visible, as we have turned to an easterly course.

And now there began a phase compared with which all that had hitherto happened was play. While our own smoke completely hid the target from me so that I had to hand over to the after control, a hail of hits descended on us from port aft and port ahead. There nothing can be seen but red flashes, not the shadow of a ship. Our turrets are trained right aft and are firing as well as they can at our old friends, Beatty's battle cruisers. From this direction a shell pierces the upper deck abaft the fore funnel, penetrates the casemate and bursts behind the under part of "B" turret, causes a serious fire and throws outwards both the armoured doors which lead from the casemate to the deck. The explosion occurred directly under the control position but did no damage to this and the two fore 6-in. single casemates which were quite close. A hit from forward hits the right gun of "A" turret, on the right-hand side just in front of the turret, tears a big bit out and goes slantwise upwards against the right side of "B" turret. The shell breaks up but the 10-in. plate is pierced and the piece broken out is hurled into the turret. There it destroys the breech gear of the right gun, kills the men standing there and sets alight the front and rear portions of a cartridge[1]

[1] Note,—The German cartridges consisted of two portions, both in brass cylinders.

which were ready in the upper lift. The officer of the turret is dead, the gunner unconscious, lights out, all the fuses of the power and light current fused, the pumps empty, the turret full of smoke and swimming with glycerine, but the left gun and its crew behind the splinter bulkhead are unharmed. The layer, C.P.O. Gunner Klopp, one of the best petty officers I ever knew, succeeds, with the help of artificer Arnold, in reporting, after half an hour's work, the turret's left gun ready. The pumps are filled with sea water from the fire extinguishing apparatus.

The fateful red flashes from port ahead come from the English 3rd Battle Cruiser Squadron, which, ahead of the enemy main fleet, steered for the sound of the guns and was able, itself unseen, to close us to the most effective range. Probably it inflicted on us at this moment the fatal damage, even if it was not till later that its full effects were felt. Every ship has weak spots; our "Achilles heel" was the broadside torpedo flat, situated forward of turret "A." Here, unfortunately, for reasons of space, the torpedo bulkhead, that incomparable protection against hits below the water line, which was such a marked advantage in German ships as compared with foreign ones, had been left out. So two heavy enemy shells succeeded in penetrating under the belt and burst so effectively that the whole of the ship forward of "A" turret filled practically at once. It caused a tremendous shock and our gunnery station would not stay still again. I hit the armour plating heavily with my head just as I was about to take out one of the slit covers and clear the water off the rangefinder.

From "A" turret comes news of the right gun being put out of action and the slow flooding of the magazines. Unfortunately the inner part of the barbette was connected with the torpedo flat by a small gap in the armour deck, an emergency exit, which must have been forced open by the explosion. When the cause of the inrush of water was guessed it was too late. The hole was deep under water in a small unget-at-able space.

Meanwhile we had turned South and suddenly there appeared, plainly and comparatively near, an English battle cruiser of the "Invincible" Class, four points aft. I cannot express the delight I felt at having one of these tormentors clearly in sight, and like lightning the orders are given. But already a dark object moves between my periscope and the enemy—the end of the Admiral's bridge—which uselessly limits by 10° the vision of the periscope. "Has the after control the range"? "Yes, 100 hm." "After control carry on." Lieut.-Commander Bode quickly and clearly takes over, and to the unspeakable delight of the whole ship, fifteen seconds later our turrets, except "B" speak again. I hear through the telephone everything said by Bode at the gunnery centres and look again at the enemy. Over! "4 down." "Salvo." A straddle! "Salvo." As the sound of the fall of shot indicator squeaks, the red flame flashes up nicely and unmistakeably from the water columns round the enemy. Signs of a hit like these make a very definite impres-

sion if one has seen them twice. And sure enough, only a few seconds pass before the red glow breaks out everywhere and this ship too blows up. It was the " Invincible "—the unconquerable conquered. " Derfflinger," as well as ourselves had fired at her. For myself, I would not claim the credit from my highly-esteemed brother-in-arms, but to be just to Lieut.-Commander Bode, I must say that I have no doubts as to our being responsible. The squeaking sound and the straddling salvoes and the red flames, all were unmistakeable, and it is as fresh in my memory as if it had just happened.

That, however, is the end of us as leader of the line. At 7.43 p.m. " Lützow " sheers out of the line to slacken speed ; the water is pouring in too fast at our bows. Four of our destroyers put up an enormous black veil of smoke between us and the enemy and at once we are out of the heavy fire. A rest from action ! After three and half hours I leave my station for the first time. The Admiral with his staff is just leaving us ; charming and calm as ever, he takes leave of us standing near with hearty words of recognition. While he goes on board a destroyer which comes alongside, our battle cruisers pass us to port. There is no time for careful examination, but with satisfaction I count four of them. " Derfflinger " and " Seydlitz " are a little lower in the water than usual, but otherwise all seems well. Then a hasty glance at our deck, which is scarcely recognisable. The chart house has fallen as houses of cards are apt to do. Of the bow turrets, "B" is pointing hard to port and smoke is coming from all its openings. It should be trained fore and aft, so something is wrong there. I had not had any report as to this, but there comes from the central gunnery position the bad news, " 'B' turret does not answer." Then the dance starts again. Red flashes to port out of the mist. " To the guns." In a moment I am in the control. Rangefinder 100 hm. " At the muzzle flashes." " Salvo." . . . Not a shot ! When the flash comes again, again " Salvo." . . . Not a shot ! It is impossible for the gunlayers to get on. If we only had " the director."

Two or three hits shake the ship further aft. One of these bursts in the lower deck, between "C" and "D" turrets, causing serious casualties in the after action dressing station, among the wounded, surgeons and sick bay attendants. At the same time it destroys part of the electric power leads to "D" turret, which here, for a short distance, contrary to the usual practice, lie above the main armoured deck. Enemy shells find places like this with deadly accuracy ; as a result "D" turret is reduced to training by hand which, in the case of a 12-in. turret, means practically complete inaction. This shell also tears up the main armoured deck, the only case of this happening, but does no damage to the powder magazines just underneath it.

Then we must have been lost to sight by the enemy, and, although the whole English line passed by us, we were not fired at and were able to devote all our energy to repairs. And there was plenty to do. First

"B" turret. A number of dead, who had not been there before, were lying on the small strip of the upper deck near the turret, so some of the turret's crew were still alive. Then came the report from inside, "Left gun clear," and see, it swings round. The right gun of "A" turret has lost a semi-circular piece about one yard square on its upper side. The muzzle droops, as the elevating gear has been put out of action. I think to myself that I shall have four guns in a fit state for the night action. A survey of the secondary armament shows three guns left out of fourteen, only one of which is on the starboard side. Of our eight searchlights only one can be used, aft on the port side, but all its leads are broken. So we must use messengers from the guns crews available. The electricians must repair the cable to "D" turret. I report the state of the guns to the Commander who is cheerful and busy. Meanwhile the ship is well down by the head, the deck at the bows is on a level with the water. I hear that practically the whole fore part of the ship is water-logged, only one of the switch rooms there is clear of water and there are a number of men down there below the level of the water on the upper platform deck. To help them was impossible. "A" turret now reports that the magazines had had to be abandoned after getting up all the ammunition that can be stowed; further, "B" turret's magazines are making water but it can be kept under.

"Lützow" was the first ship equipped with a grouped system of pumps, which provided one group of pumps forward, amidships and aft respectively. The bow section failed directly the main inrush of water took place, so that the bow could only be pumped out by letting the water run amidships. However, the apparatus for doing this, I think, was so quickly submerged while the ship was leading our line at a high speed, that it could not be operated. The reason for the ship sinking can be put down to these unfortunate circumstances. I breathe again when we go to night stations. It seemed that we could not help being attacked. When it was almost dark the spotting officer came down from the foremast. He had had the best view and a great deal to tell us. On his head he wore the band of his cap, a splinter had taken the top of it and the telephone ear pieces off, a fact he had quite forgotten. He asks me what the state of affairs is and I can only answer "I hope no destroyers find us to-night, and as to what will happen to-morrow, God knows." The speed of the ship has been reduced to seven knots on the earnest representations of the first officer, but with the corresponding revolutions she probably only developed about five. The very low forecastle,—"Lützow" had no upper deck forward,—was now under water. More sea had got up from the S.W. and is breaking on the forecastle among the heaps of empty cartridge cases.

We were all dead beat, officers and men, and the night dragged endlessly on. What of the morning? We had seen the two fleets in action disappear to the South. At midnight searchlights and gunfire shone out in that direction. We did not doubt that the new day would

herald a new action, it seemed impossible for touch to be lost. Could we be of any use? I should have liked to have asked the Commander if there was any chance of our keeping the water to its present limits, but he could not leave the control nor I the bridge. I always had hopes for the ship, but at midnight when the Captain called the senior officers to a conference, the Commander reported 7,500 tons of water on board and expressed his opinion that at the most we could keep afloat till 6 a.m. The news was a dreadful blow. The noble ship; but it had to be; the bows were now two metres under water, which was pouring through the open doors of the casemates into the battery and through the torn up plating on to the middle deck. The great oil boiler rooms forward had had to be abandoned to save the men there. The draft forward was seventeen metres. The Captain, who up till now had steadily steered the ship in the direction in which the fleet had last been seen, sadly gave in, to prevent the useless sactifice of human life, which would have occurred if she had not been abandoned.

A final attempt to navigate her stern first failed because she could not be steered against wind and sea.

Shortly before 1 a.m. came the order "all aft," and the four destroyers which had stayed with us were ordered alongside, aft on the starboard side. I had not recollected them and was agreeably surprised at not having to swim. As long as there was time I went round the ship with other officers and trusted ratings looking for wounded and men who were asleep. Sure enough I found one gallant fellow fast asleep on the bench in the gunnery flat. The sight in the big 6-in. battery was indescribably desolate. Most of our casualties had been there. In "B" turret it was too dark to see anything, but from survivors' reports I heard with great satisfaction that the burning of a complete cartridge in two portions in the upper lift had had only a local effect. In the "Lützow" very careful precautions had been taken against the spread of a powder fire, with complete success. Unfortunately the officer of this turret, Lieut.-Commander Fischer, fell a victim to this fire, while others close to him were saved although badly burned and half suffocated. The final success was a triumph, the repair of the electrical connections of "D" turret.

The disembarkation of the crew was carried out perfectly, first the wounded, and then the rest without any trouble. As we cast off in the last boat I saw the ship in the grey light of morning; "A" turret under water, "B" an island. Near the bridge the water was up to the superstructure. The stern was about two metres higher than usual. Then one of the destroyers fired a torpedo which hit amidships, whereupon the ship for a moment heeled over to starboard. It only needed a slight impact to hasten the sinking by one or two hours.

At 5.45 a.m. a detachment of one enemy cruiser and four destroyers reached the spot where she sank, they were thus cheated of an easy triumph. After our boats had had short sharp actions with this and

another group of the enemy, we were picked up by the " Regensburg " before noon and landed at Wilhelmshaven in the evening.

With regard to the behaviour of that part of the crew who were under me, I can only say the regularity with which our salvoes were fired, even under the hottest enemy fire, would have rejoiced the heart of any gunnery officer. On all sides I heard nothing but praise for our men's behaviour, but I had not expected anything else.

The gunnery apparatus, turret fittings, guns, voicepipes for orders and fire control worked perfectly throughout the action, except when damaged by the enemy's fire. This must be specially emphasised with regard to the fire control instruments which were extremely delicate, in order to show that the most complicated technical apparatus is quite reliable, if properly cared for and well shielded. I cannot, however, refrain from mentioning that, in my opinion, two instruments were not available, which we could have had if knowledge of their value had been sufficiently widespread. The enemy had both ; I mean the central training gear with " follow the pointer " system, and an instrument for ascertaining enemy speed and course, the " plotting table." Our director, without which we could not have fought the action at all, was a half measure. Possession of a central director gear with a pointer would have materially improved the position of the German fleet during the critical period from 7 to 8.30 p.m. The plotting of enemy speed and course is of equal importance. It was quite impossible at the extreme ranges of the first two hours to make accurate guesses at the continual alterations of course made by the enemy when one could not see him, to say nothing of estimating the speed when his hulls were three-quarters below the horizon.

In spite of the excellence of the training of our gunnery officers in rapid observation and correction, we had based our system too much on head work and power of guessing the range. In reply to efforts to obtain an extension of the mechanical aids the answer always was: " Not so much of your technical means, which always go wrong in action." It is not true ; a man tires and eventually makes mistakes, but the machine does not. Things which can be done simply by machinery ought not to be left to the intellect. The gunnery officer has quite enough to do even if all the data obtainable by instruments are conveyed to him without intermission by the plotting room. The difficulties of securing hits at sea under present day conditions are too great to allow one to dispense with all the advantages of a convenient place to work in and mechanical aids.

# THE BIRTH OF THE REGULAR ARMY.

By LIEUTENANT D. H. LENOX-CONYNGHAM, The Cameronians.

AT the present day we have grown so familiar with the existence of a Regular Army, while its traditions have taken so strong a hold on the public imagination, that it is very difficult for us to think of a period when England possessed no standing armed forces. More than that, it seems incredible that the birth of our Army, as we now know it, should only have taken place some two and a half centuries ago, and that its beginnings should have met with bitter opposition.

In view of the changes that seem to threaten the whole structure of our Regular Army of to-day, it may, consequently, prove of no small interest to trace the difficulties that were encountered by those who first attempted to endow the country with our present organization. Such a review of the past may well make us feel how great changes can and must come and how, in the end, such changes may rapidly be assimilated and approved, not only by those directly concerned therein, but also by the entire nation.

Another interesting lesson to be derived from such a retrospect is the clear proof that it yields of how the reduction of armaments has, in the past, been a continual and popular hobby horse of all political parties in Parliament.

The last days of the XVIIth century saw England bitterly opposed to the idea of a standing army. The most popular act of Charles II, when he returned from his travels to the throne of England, was the disbanding of the troops. The well disciplined Ironsides, through whose agency Oliver Cromwell had maintained his military despotism, were universally hated. They left an almost indelible impression on the mind of a nation, slow to forget its dislike of soldiers. And the Tories were never tired of dilating on the evils of Cromwell's military rule. The Whigs likewise were bitterly opposed to the idea of a standing army. They thought that it would endanger the sacred liberties of England; they looked back with horror to the reign of James II, the Stuart monarch, who had committed two unforgivable crimes in their eyes. He had been a self-confessed Roman Catholic and, without asking Parliament's consent, had kept under arms a force numbering 30,000 men, an army which was popularly supposed to be strongly partisan. So it happened that opposition to a standing army was about the sole point on which both Whigs and Tories stood firmly united.

Though English popular sentiment could vehemently oppose a standing army, signs were not wanting to show that some such body was inevitable in the near future. Gone were the days when England was an island cut off by the defending sea from the wars and worries of the rest of Europe. She was becoming both continental and colonial. She could no longer stand aloof from quarrels on the mainland. The Channel that divided her from her European neighbours was perceptibly narrowing. England was also acquiring almost, as Sir James Seeley says, "in a fit of absence of mind," a vast Colonial Empire. This Empire had already embroiled her in a struggle with France, which resolved itself into a second, a longer and fiercer, hundred years' war, a struggle not to be finally concluded till Napoleon's shadow was dispelled from Europe.

At this time great changes were taking place in the art of war, so that a hastily raised militia, however brave, would stand no chance against a well disciplined Continental Army. A strange series of brilliant generals had laid the foundations of the modern art of war. The first of these was a Spaniard, Alexander Farnese, Duke of Parma; then came the two Frenchmen, Condé and Turenne. The brilliant Condé, lacking the higher qualities of a general, and prodigal of the lives of his soldiers, was a genius for fighting battles. While Turenne, a far greater strategist, was able to supply the defects of his more dashing rival. Then it was that military engineering, before almost unknown, came into great prominence, with the work of those two great engineers, Vauban and Cohorn. The greater of these two, Vauban, was also a Frenchman. It was this age which gave to armies the two great inventions of the detachable bayonet and the transportable pontoon bridge, both originating in warlike France. But still it was the Prussian, not the French, infantry who by their skill in manœuvring and their rapidity of firing set an example to all European armies, which they were not slow to copy.

It was then also that the race in armaments started in Europe, each nation priding itself in having a larger and a more highly trained army than its neighbour—a system destined to continue with few interruptions till it finally resolved itself into the cataclysm of 1914. So the Emperor Charles VI, though his Empire was but a shadow of what it had been under Charles V, maintained 170,000 men under his command.

When Frederick the Great ascended the throne of Prussia in the year 1740, his army numbered 76,000 highly trained men. The most remarkable increase, however, was shown by the French army. Though Henry IV, who came to the throne in 1589, had to conquer his kingdom before he could rule it, still his army numbered only 14,000 men. By the time of the Peace of Nimeguen this number had increased tenfold. Finally, when the long and eventful reign of Louis XIV reached its close in the year 1715, the French army had reached the prodigious total of 360,000.

For long England tried to stand aside. William III thought that 30,000 was the minimum below which the English army should never be allowed to fall. But no sooner was the Peace of Ryswick concluded than the English Parliament reduced the forces to 10,000 men. In the early days of the XVIIIth century there were continual complaints about the size of the army. While Walpole was Prime Minister of England the number of men under arms was always under 17,000. It was only the terror evoked by the rising of 1745 and the continual dread of a French invasion which enabled Pitt, with all his power and all his personality, to increase steadily the size of the army. An increase which the growth of the Colonial Empire made more and more imperative. Steadily the army increased in size and its growth was not seriously checked by the formation, in the year 1757, of a National Militia.

But an army, however numerous and however well trained, is useless unless its commanders have the power of enforcing discipline. For military punishments must be more swift, more sudden and more severe, than is possible under the slow and tedious process of the Civil Law. All this may appear to us very obvious, yet it took nearly a century to convince the lawyers and politicians of England of this simple fact.

The year 1689 had been the date of the first "Mutiny Act." It happened that at Ipswich, in Suffolk, 800 men had declared in favour of James II. A "Mutiny Act" was then passed, which enabled courts-martial to punish mutiny and desertion by death. It was in force for six months. After that its enactments were very irregular. For long periods, sometimes lasting two years, it was not in force at all. It was only after the Hanoverian Succession that it became regularly enacted. At first it only concerned the Regular Army. But this was found to be insufficient, so in 1754 the Mutiny Act was made to include the troops who served under "The East India Company." In 1756, the Militia, if called out on active service, was also subjected to this Act. Finally, in the year 1788, in spite of the fiercest parliamentary opposition, headed by the two great Whig Leaders, Fox and Sheridan, the "Corps of Sappers and Miners" was included in the same category.

Great was the eloquence of the opposition. Each stage in the passing of the Mutiny Act was met by vigorous parliamentary opposition. The great lawyer, Blackstone, in his "Commentaries on the Laws of England," is fierce in his denouncement of courts-martial and of military law. He maintained that the condition of the army was one of complete servitude, and that it should never be the policy of a free nation to allow slavery to flourish in its midst. But if slavery had unhappily been introduced, the slaves were the last people to trust with arms as nothing could be more suicidal than to deprive of the liberties of the constitution, the very men who in the last resort would be entrusted with its defence.

The supporters of military discipline were, however, greatly aided by the type of man that was being recruited for the army. He usually

came from the dregs of the population. An Act passed in the reign of Queen Anne, gave the " Justices of the Peace " the power of compelling to join the army all those who had " no lawful calling or employment or visible means of their maintenance or livelihood." The press gang also flourished at that time. It was a kind of irregular police. It drafted into the army all suspected criminals and men of notoriously bad character. If desertion was not severely punished there was small chance of keeping together an army recruited in this fashion.

The most curious of all the survivals of this hatred of soldiers was the reluctance of Parliament to provide barracks. Even when the army was of considerable size it was still lodged in public houses, kept under canvas during the most inclement parts of the year, or stowed away in barns which were bought for that purpose. Blackstone, in his " Commentaries " was naturally opposed to barracks. He said that soldiers should live " intermingled with the people, no separate camp, no barracks and no inland fortress should be allowed." Pulteney held the very fact that a standing army in quarters was more burdensome than one in barracks to be a reason for opposing the construction of the latter lest the people should grow accustomed to the yoke. And General Wade complained bitterly that " The people of this Kingdom have been taught to associate the ideas of barracks and slavery like darkness and the devil." It was not until 1792 that a barrack department was set up in this country and then only in spite of the violent opposition of the Whigs.

This was only the case in England. In those most rebellious countries of Scotland and Ireland barracks were built to serve as fortresses. William III made a grant for the erection of permanent barracks in Ireland. And Chesterfield contemplated a great increase in this number. Maty, in his " Life of Chesterfield," says " If his Lordship had returned to Ireland he would have ordered new barracks to be built in those parts of the Kingdom which are not amenable to the laws of the Country. By this provision he wished to make the inhabitants know, that there is a God, a King and a Government."

In Scotland the first barracks were built about a quarter of a century after William's barracks had been started in Ireland. The rebellion of 1715 being the immediate cause of their erection. In 1722 Macky visited the town of Berwick-on-Tweed and in his " Journey through Scotland " says ; " King George, since his accession to the throne, to ease the inhabitants of this town from quartering of soldiers hath built a fine barrack here consisting of a square spacious court of freestone. . . . These are the first barracks erected in Great Britain, and it would be a vast ease to the inhabitants in most great towns if they had them everywhere ; but English liberty will never consent to what may seem a nest for a standing army."

Another quarter of a century and the change was complete. England was completely reconciled to a standing army living in barracks

and under military law. The army had at last become a profession for the members of the old landed aristocracy. In 1760 Lord Bath published a remarkable pamphlet. It was called "A Letter to Two Great Men" (Newcastle and Pitt). This letter is interesting not only as the expression of the opinion of a man who was violently opposed to the idea of a standing army, but also as a sign of the complete change in the public opinion of England. In this letter Lord Bath said: "What I lament is to see the sentiments of the nation so amazingly reconciled to the prospect of having a far more numerous body of regular troops kept up after the peace than every true lover of his country in former times thought could be allowed without endangering the constitution. Nay, so unaccountably fond are we becoming of the military plan, that the erection of barracks, which twenty years ago would have ruined any minister who should have ventured to propose it, may be proposed safely by our own ministers nowadays, and upon trial be found to be a favourite measure with our patriots and with the public in general. . . . What I lament, as the greatest misfortune that can threaten the public liberty, is to see the eagerness with which our nobility, born to be the guardians of the Constitution against prerogative, solicit the badge of military subjection, not merely to serve their Country in times of danger which would be commendable, but in expectation of being continued soldiers when tranquility shall be restored."

# EXPANSION OF THE INFANTRY ARM FOR WAR

By Major G. S. Brunskill, The King's Own Shropshire Light Infantry.

THE Gold Medal of the Royal United Service Institution for 1924 was awarded to Major L. I. Cowper, O.B.E., the King's Own Regiment, for his essay dealing with the most suitable organization of our existing military forces with a view to their expansion in the event of a great war. His views were so clearly expressed and so well argued that there may seem little call for criticism; but the Gold Medallist, in common with his competitors, had to base his task on certain premises which in themselves may not meet with universal agreement. This fact and the great importance of the questions involved must be regarded as my excuse for offering some other opinions on the subject.

I propose, therefore, to show why and how I differ from Major Cowper on certain points and also to suggest other facts and influences which seem to me to be material to the study of the problem.

Let me begin by summarising the points in which we are at variance:—

Firstly, while accepting, for the moment, the premise of expanding the Territorial Army from fourteen to forty-two divisions, I still join issue with Major Cowper on the following:

(1) He assumes the regiment to be the best unit for the maintenance of *esprit-de-corps* and of man-power in a great war. He would constitute one reserve battalion for the regiment and pool all Regular Army Reserve and Territorial Army personnel therein.

I consider that, in a great war, the actual fighting unit of *esprit-de-corps* is the division and that, as a unit of man-power, the regiment is out of the question.

(2) He would raise a Territorial Army Reserve by making all Territorial recruits accept a reserve obligation.

I believe a Territorial Army Reserve to be impracticable, and, even if it were practicable, to be not worth the expense of its creation and maintenance.

(3) He would withdraw large nuclei from the Regular Army to assist the expansion of the Territorial Army.

I hold that Regular Army personnel would not be available in sufficient number for this purpose and that the Territorial Army must train its own instructors, as nuclei for expansion.

Secondly, while I momentarily accepted Major Cowper's original premises so as not to confuse my initial arguments, I do not agree that in a great national war of the future we shall require forty-two divisions constituted on a purely infantry basis.

Having put forward these broad statements I now propose to examine the problem in greater detail.

## I. The Regiment as the Unit of Esprit-de-Corps and of Man-Power.

Before dealing with this thorny question, I would make it quite clear that the following remarks apply only to a war needing at least the five Regular and fourteen Territorial Army Divisions, with a vast reserve of man-power training behind them.

Major Cowper, with whom everyone will agree in this respect, emphasises the value of the *esprit-de-corps* of a regiment. He would preserve this throughout a great war rather than cultivate an *esprit-de-formation*, i.e., *" de division."*

He, therefore, visualises one reserve battalion for each regiment whose role would be :—

(*a*) *In Peace.*—To train recruits, regular reservists and special reservists. He intends, presumably, that T.A. battalions should train their own reservists, if there be any.

(*b*) *In War.*—To be a training centre and pool of reinforcements for all battalions of the regiment, i.e., on an average two Regular and at least eight[1] Territorial battalions.

These principles of expansion are hardly compatible with our existing principles of organization. In the initial stages of reconstruction in 1921 it was promised that Territorial Army soldiers should not be sent to reinforce Regular units. It has been ruled definitely, and recently solemnly re-affirmed by the Secretary of State for War, that the Territorial Army shall have an identity entirely separate from that of the Regular Army. In fact the Territorials were given to understand that they would always serve with their own battalions and would not even be drafted to other Territorial battalions.

[1] On Major Cowper's basis of 42 T.A. Divisions, there would be 504 Battalions to the 63 Line Regiments, i.e., an average of 8 Battalions per Regiment.

There appears no hope of these decisions being reversed since both the Territorial Army battalions and the County Associations set great store by them. In fact, the only fusion to be allowed is the loan of Regular officers and N.C.O's. to train, staff, and in some cases, command Territorial Army units and formations. Consequently, it seems idle to formulate any scheme whereby all the man-power resources of a county regiment can be pooled, while it would seem inevitable to legislate for a separation of Regular and Territorial Army personnel in time of war.

But let us consider the matter from a more constructive aspect. Personally, I hold that the first essential step is to enlarge the " unit " of Regular infantry man-power. This idea was elaborated in an article entitled " The Infantry Man-Power Problem," which appeared in the January, 1925, number of the " Army Quarterly." Briefly, it was shown that the Regular infantry of the line, as an arm, is sub-divided into sixty-three regiments, which are water-tight compartments. It was pointed out that individual Regular battalions would certainly run short of reinforcements, as they did in the last war, and that the sudden drafting of men of one regiment into a battalion of another was destructive of morale and of organization, whether compulsory transfer followed such drafting or not.

The remedy there suggested was that now, in peace, regiments should be " grouped " territorially (probably and most conveniently according to Territorial Army divisional areas) and that their Record Offices should be amalgamated. Men should be enlisted and serve in peace in the same way as at present, but in war they should be liable, if necessary, i.e., as in the Great War, to be drafted to any battalion of the " group."

Next let us take training or reserve battalions. At present no machinery exists for draft-finding in war. The Special Reserve (Militia) Battalions are in a state of " suspended animation." Depôts are not suitable for draft-finding, either from the point of view of accommodation or training. Their role in war must be limited to the reception and equipment of recruits. For the purpose of finding Regular drafts, therefore, composite training units should be formed for each of these new " groups." They should be located in good training centres such as Aldershot or Salisbury Plain. In a small war, and in the initial stages of a great war, they might be sub-divided into regimental companies, in order to preserve regimental *esprit-de-corps* as long as possible. On the other hand, each company would have to train so many different specialists, such as machine gunners and signallers, that even this separation would be difficult.

For the Territorial Army it would be necessary to form separate training battalions on the basis of one or two per regiment. It is unlikely, however, that, even with this larger pool, which would be serving eight Territorial battalions, it would be possible to preserve the regiment as the " unit " of man-power. Any endeavour to do so would lead to great

waste of man-power. Each of the sixty-three Territorial Army pools would be maintaining a big enough reserve to meet the maximum possible demands of individual regiments. For the Territorial Army, too, there it would be necessary to pool man-power on the "group" basis.

In a war on the grand scale, therefore, the regiment as such would tend to lose its *esprit-de-regiment*, though never its *esprit-de-battalion*. On the other hand, there would spring up that *esprit-de-division*, which was a very real spirit in the late war, and from the point of view of winning a war, this *esprit-de-division* is probably far more valuable than the old *esprit-de-corps* of the regiment.

## II. A Territorial Army Reserve.

The peace establishment of a Territorial Army infantry battalion in other ranks is now 636. At present, however, the average strength of a battalion is only 510. Before the Great War, too, Territorial Army battalions were under strength to this extent.

At the present time out of these 510 men, 10 per cent. would not be qualified, by age or fitness, to proceed overseas, so that it would not be safe to rely on more than 460 Territorial serving soldiers being available on embodiment in each first line battalion.

Now the war establishment is 845 other ranks, to which must be added 10 per cent. for the first reinforcements and 10 per cent. to follow immediately after, making a total requirement for each battalion of 1,025. It follows that 565 (1,025 minus 460) is the number required for each first line Territorial Army battalion, of men other than serving Territorial soldiers. These men could be found either by means of a Territorial Army Reserve or from post-mobilization recruits. Major Cowper advocates creating a Territorial Army Reserve. If the Territorial Army terms of service were four years with the colours and eight years in the reserve, and the strength of Territorial Army battalions stood as at present, the average strength in the reserve might be some 800. This allows for wastage and for extensions of service with the colours to produce N.C.O's. On this basis, the Territorial Army Reserve could meet the needs of the first line battalion and furnish 235 (800 minus 565) serving Territorial Army soldiers or reservists to form the nucleus of the second line of the Territorial Army.

The idea of a Territorial Army Reserve is by no means new, but it is not usually argued that all Territorial Army soldiers should be enlisted with a reserve liability. Major Cowper, in advocating this, asserts that there would be no detrimental effect on recruiting. This seems to be a somewhat over-bold assertion. Before the Great War there existed a Territorial Army Reserve with a four years' engagement, open to all Territorial soldiers who had completed four years or more with the colours. It was a failure, however, and its strength on the outbreak of

war, for the whole of the Territorial Army infantry, was less than 800 other ranks. This does not help to support Major Cowper's contention.

I think that the scheme would have to be made financially very attractive, in order to make a man commit himself to a twelve years' liability of this nature. The men concerned are mostly married and loth to undertake any engagement which might impair prospects of civil advancement. Nor would the issue of a financial attraction, such as a bounty, be the only increase in the cost of a Territorial Army battalion under this alteration of system of enlistment.

There would be the extra cost of at least three trainings in eight years in the Reserve, considerable extra clerical work, besides the expense of maintaining and turning over stocks of clothing and equipment. It is difficult to estimate, with any degree of accuracy, what such cost might be. The estimated grand total cost of the infantry of the Territorial Army, at the present day, is nearly £3,000,000 a year. I suggest that Major Cowper's Territorial Army Reserve scheme would mean an addition to the Military Budget of at least £2,000,000 for the Territorial infantry alone.

The question next arises as to whether such a reserve is really worth the expenditure involved.

I hold that it is certainly much more important to put the Regular infantry on a sound basis and I shall refer later to the need for extra trained man-power for this purpose.

Regular units, which take the field at once, must have trained men available on mobilization. In this regard they differ from Territorial units. From the broad point of view, too, £2,000,000 could probably be expended to much greater advantage on an increase, for instance, in the artillery or tank units of the Regular Army, or even on additional air squadrons.

Estimates of relative value can only be personal opinions; still I cannot believe that such a Territorial Army Reserve would be worth the money spent on it.

Territorial Army Divisions cannot possibly take the field in less than four months, and it is doubtful whether the slight previous training of the Territorial Army Reservists would really make much difference.

But there is force in Major Cowper's argument that the reserve of "registered" men would tide over the early days of mobilization and permit of a scheme of compulsory service, based on a national register, being put into operation in a workmanlike manner.

It is suggested, however, that some scheme of partial registration might be instituted by the County Associations and by units without creating a Territorial Army Reserve. All ranks of a Territorial unit might invite approved friends to register their names, on lists kept by the commanding officer, as being desirous of joining the unit in preference

to any other in the event of national emergency. Such men should be invited to attend all entertainments, sports, reunions, etc., and be treated by the unit as honorary members; in fact, they would be analogous, in peace, to the supporters clubs of many Association Football teams.

This registration would involve no definite liability. But, immediately on an outbreak of war, the men would be asked definitely to join the Territorial Army voluntarily rather than wait their turn to be called up under the compulsory system. It might be possible to promise them, in time of peace, that if they joined up on mobilization they would receive either a bounty or a special advance of pay and separation allowance. This system was instituted in many Territorial (alias Defence Force) units in the "coal strike" emergency in 1921, but was discontinued by order of the War Office.

## III. Power of Regular Army to Aid Territorial Army.

As has been shown above each Territorial Army battalion needs 1,025 men to enable it to take the field, with 20 per cent. re-inforcements. With an average of eight Territorial battalions per regiment this means 8,200 fit trained men to be produced. This will necessitate enlisting at least 10,000 for every regiment, all raw recruits except the 460 serving Territorial soldiers with an average of two years' service, and possibly 800 Territorial Army reservists.

If all forty-two Territorial Army Divisions are to take the field within nine months, as Major Cowper plans, training schemes must allow for the aforesaid being enlisted by the end of the third month after mobilization at the latest. The only regimental training staff at present allowed for these 10,000 men, are the Regular permanent staffs of two Territorial Army battalions, and the Territorial Army officers and N.C.O's. of the first line Territorial Army battalions. The former amount to a maximum of three Regular officers and some fifteen Regular N.C.O's. per regiment, and the latter have hardly enough experience to bring their own battalions up to war standard.

Without doubt, this staff must be rapidly augmented. To the writer it appears that, broadly speaking, there are two sources of supply. Officers, N.C.O's and selected men must be drawn from the Regular Army or they must be taken from the Territorial Army and rapidly educated in the art of instructing.

To delay all expansion of the Territorial Army until Territorial Army personnel has been trained to be instructors would probably be out of the question.

But the Regular Army infantry certainly cannot afford to supply many men for the Territorial Army on mobilization because their man-power is extremely short already.

I showed, and I hope conclusively, in the article on " The Infantry Man-Power Problem " already referred to, that each Regular Army Battalion will be short on mobilization by 400-500 men. The chief reasons for this are that present establishments are based on wastage in war being only 10 per cent. per month, even in the opening stages; neither do they allow for any reinforcement of battalions in India. The best remedy is the revival of the infantry Militia (or Special Reserve) battalions.

Major Cowper suggests withdrawing 50 per cent. of the sergeants from the Regular Army battalions at home. It must be remembered, however, that not only is the Regular Army man-power short, as already stated, but many N.C.O's. will be required for training Regular drafts, expanding Regular schools and for O.T.C's.

The most that I think the Regular battalions could do would be to provide some additional instructors to initiate the training of first line Territorial Army units and at the same time, to staff schools for training Territorial Army officers and N.C.O's. to become efficient instructors. These men should be withdrawn as soon as possible.

The Territorial Army must therefore concentrate on the training of instructors in the earliest stages of mobilization.

## IV. Basis of Expansion.

Turning now to a criticism of the basis of expansion adopted by Major Cowper, it is for consideration whether in any future war on a national scale a great number of purely infantry divisions will be required.

Present indications appear to point to the following being the primary needs for expansion of the Regular and Territorial Armies in the very earliest stages of a great war which are not covered by the present organization. The Regular Army will need more tank battalions, more and better " close support " artillery, and more medium artillery, in proportion to the infantry of the divisions of our Regular Expeditionary Force.

It is quite possible that the infantry division consisting of three brigades of four battalions each will prove too unwieldly a formation when tanks, medium artillery, mechanical transport, sufficient to increase the mobility of a portion of the infantry, together with cyclists, may be quite normal additions to the existing divisional troops. The result might well be a reduction of the number of battalions in each brigade, or of the number of infantry brigades in the division.

The .5-in. machine gun may be added to infantry weapons, and infantry soldiers required to drive mechanicalised first line transport.

Lastly, separate machine gun units—for both .303 and .5-in guns—may be required. It is not likely that the Territorial Army will be

expected to provide the additional units for the support of the Regular Army Divisions. These, the latter must find for themselves. As peace establishments are absolutely limited by finance, they must be found either by the abolition of certain units in peace or by improvisation of existing resources in war. Probably a combination of these two methods will be the solution.

Apart from the possible abolition of pack artillery in favour of a better close support arm, it appears inevitable that part of the present infantry arm shall be replaced in peace or recast on mobilization to provide additional tank units and some machine gun units.

These probabilities still further strengthen the case for the grouping of infantry regiments into larger corps, so as to provide pools of sufficient size for the improvisation of new units. It also appears essential that all future infantry recruits should on enlistment accept the possibility of being posted to machine gun or tank units, if the necessity arises in war, and to be detailed to drive mechanical transport, if so required.

Assuming that these conclusions are anywhere near correct, the present organization of the Territorial Army and the basis of expansion adopted by Major Cowper appear to be radically unsound. At present, there are no tank battalions and practically no close support artillery in the Territorial Army and certainly no machine gun units.

It is not likely that the money to create these units in addition to existing establishments will be forthcoming in peace time in the case of the Territorial Army: even less than in that of the Regular Army. The present Territorial Army is essentially conceived on an infantry basis, and is organized for expansion as infantry—no more nor less. It is doubtful, however, if any more infantry divisions, such as we know them to-day, will be required after six months' experience of any great war of the future. It might rather be advocated with every degree of confidence that our existing infantry should form the basis of improvisation on mobilization. It might further be urged that certain battalions should be earmarked for conversion into tank battalion or machine gun units. This step might, indeed, be supplemented by a policy of reduction of strength of infantry units, so as to provide money for the formation of cadres, at least for some tank and additional artillery units. But there are two basic facts which destroy this idea.

Firstly, the Territorial Army infantry is sub-divided, not only into sixty-two regimental water-tight compartments like the Regular Army, but still further, into 168 unit-compartments owing to the pledge given to men on enlistment that they shall always serve with their own units.

Secondly, the battalion peace establishment is so low and the average strength per battalion so *very* weak that any further reduction can hardly be imagined.

It appears inevitable, therefore, that in the near future we shall be forced to reduce the number of infantry battalions in peace, in order to make way for other units. Whether this should be done by the reduction of the number of the battalions per division, or of the number of divisions, is a matter of policy which can only follow the lines of the Regular Army.

The difficulties already referred to and the extreme difficulty of training the specialists who will be required from the infantry for improvisation into .303 and .5-in. machine gun units, and driving mechanical track or semi-track vehicles, display the folly of having the infantry arm sub-divided into manifold water-tight compartments. Whatever other steps are taken, therefore, it appears imperative in the Territorial Army, as well as in the Regular Army, to " group " regiments and pool their resources in an emergency.

# THE FUTURE OF THE ROYAL MARINES
## —A REPLY

By " CLASSIARIUS."

AS correspondence is invited on this subject I venture to make the following reply to the author of the article in the last number of the JOURNAL,[1] though these criticisms may seem destructive rather than constructive. At any rate, before propounding any proposals it seems advisable to examine the points he raises.

He mentions certain historical facts, but he hardly carries this part of his theme far enough. After the original Maritime Regiment of 1664, regiments of Marines were raised by the Army at the beginning of each war for service in the fleet; thus, in 1690, and again in 1698, certain line regiments were appropriated for service in men-o'-war as Marines; in 1739 six regiments of Marines were raised by drafts from the Army and maintained their status until 1748, when they were mostly re-transferred to the Army; in addition certain line regiments were embarked for service afloat. It was not until 1755, prior to the Seven Years' War, that the Admiralty, finding the arrangement of borrowing from the Army unsatisfactory, raised the three Divisions of Marines on their present footing under their own control. Further, Nelson found that the practice of embarking detachments of the Royal Artillery in the bomb vessels was so unsatisfactory that, in 1804, it led to the formation of the Marine Artillery companies, the men being picked from the Marine Infantry. It would seem, therefore, that the system of having Marines under the Army for service in the fleet has been proved by experience to be unsuitable, moreover, with the fierce controversy raging before our eyes over the position of the Air Force units serving with the Army and Navy, the proposal to place the Royal Marines under the Army again does not seem to hold out much prospect of success.

In the article under criticism, on page 694, the author says: " they exist only by virtue of the Army Act "; it is true that in the Army Annual Act a force of Marines is voted annually by Parliament in order to comply with the Constitution of the country while the actual numbers are fixed by Order in Council; but it is as well not to forget that up to 1879 the Marine Forces were governed by their own Annual Marine Mutiny Act and Articles of War, and that although in that year, for convenience, their disciplinary provisions were embodied in the Army Act, the Force, as regards its terms of service, enlistment, etc.,

[1] " The Future of the Royal Marines," by Major M. Everett, D.S.O., R.E.

is still governed by the unrepealed portions of the Marine Mutiny Acts; this fact was further emphasised during the War of 1914-1919 by the passing of the Royal Marine Acts of 1914 and 1916, regulating their terms of service during the War.

On page 695, the article in question only mentions "landing parties . . . in *peace*," but a very short study of the Royal Marine historical records[1] would prove that operations on land in war are a very important part of the functions of the Corps. While it is a fact that Royal Marines do not form part of the Australian Navy, yet it is interesting to note that in the Navy of New Zealand, which has been formed since the war, they do form part of the complements of the ships.

Before examining the position of the Marine Corps of the United States I would mention that although the French disembarked their Infanterie and Artillerie de la Marine, which were converted into their Colonial Forces, yet they still have their companies of Fusilier Marins in the Fleet. The latter are trained as infantry and apparently used for the same purposes as Marines. Their war record under Admiral Ronarch at Dixmude was second to none.

The United States Marine Corps, which is most closely analogous to our own Royal Marines, has a very definite place in the American organization, incidently it takes precedence of both the Army and Navy. In addition to furnishing detachments for service afloat, it garrisons all their naval bases and, to a great extent, their Colonial possessions; in the latter respect it corresponds very much to our regular troops on Colonial Service; but it is in their Marine Expeditionary Force, which is a comparatively recently organized unit, that the American authorities have shown that they realise the necessity, when their possible or probable opponents are separated from them by large expanses of ocean, of having at their disposal a striking force at the disposal of the Navy. This Marine Expeditionary Force is not merely a service of detachments as is the British Corps, but is an organized body with its own infantry, artillery and air force, with a well equipped headquarters and schools. The whole Marine Corps is governed by a Commandant, under the Secretary of the Navy, with his own General and Administrative Staffs; in fact it is more comparable to our own Regular mobilisable division, which is supposed to be ready for immediate service. In this connection it may be recalled that in the European war, the United States Marine Brigades were very nearly the first American troops in France and proved their worth at Belleau Wood and elsewhere.

Having stated these few facts, one may next examine the Admiralty policy, if any, as regards our own Royal Marines. It is not known on what basis the number of Royal Marines was fixed in the old days, but it is clear that the Navy always maintained a sufficient force to be able to utilize them in land operations as necessary, added to which the

[1] See Navy Notes, page 198.

detachments borne afloat in the old line of battle ships were large and a very considerable force could be landed from each squadron. The system, which apparently was in accordance with some principle of Admiralty policy, continued up to about 1902, when Sir John Fisher began his reforms (?) of the Navy; then, for the first time, apparently, the numbers of Royal Marines were based on the complements of the ships and there ceased to be sufficient personnel to provide even the drafts, whilst the training on shore, except for the recruits, became spasmodic. Fortunately, just before the last war the Admiralty, by introducing a system of utilising reserves and pensioners afloat, had liberated a certain number of the serving Royal Marines who, on mobilization, combined with the Reserves and recruits and provided a Brigade of Royal Marines, which was at once called on for service at Ostend, Dunkirk, Antwerp, Dardanelles (e.g., the two battalions sent to join the Mediterranean Fleet), and Zeebrugge, to say nothing of the garrisons for the Naval Bases at Scapa Flow, Cromatry and other places.[1]

Further, the existence of the Marine Corps, governed by its own Acts and Regulations, enabled the Admiralty to raise forces for their own work and under their own control, but which were able to work with the Army. The creation of these forces, notably the R.M. Submarine Miners and the R.M. Labour Corps in France, solved difficulties that were threatening to become serious.

It would seem, therefore, that the lessons of history point to the need of a Marine force under Admiralty control, which should be sufficiently large, not only to provide the Marine complements of H.M. Ships, but also a force which can be utilized for land operations that must necessarily fall to the lot of the Navy, and for which it would be wasteful to employ the present highly trained scientific seaman.

To go further is perhaps to tread on vested interests, but in these days, when economy in the Services is imperative, it is for consideration, whether in an Island Empire such as ours, with its scattered responsibilities and with dangers liable to arise at short notice, it is not desirable that the spear head, viz., the Regular division and the Colonial garrisons, should not all be Marines under Admiralty control, for small wars; whilst the Regular Army, on the lines of the Metropolitan Army of France, with its Territorial reserve at home and the Dominion forces overseas, should provide the forces for India and Continental wars.

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[1] Since the war, battalions have been employed in Ireland and Constantinople which were only obtained by the stoppage of all drafts and training and a partial reduction of the complements in the Fleet, and now we see another similar battalion hurriedly dispatched to China to serve with the Fleet.

## ROYAL MARINES PRIZE ESSAY

A prize of £50 has been provided by an officer of the Corps for a competitive essay on: "Should ever the hour of real danger come to England, the Marines will be found to be the country's sheet anchor." (*St. Vincent.*)

The competition is limited to Captains and Lieutenants, R.M. ashore and afloat, including officers on the seconded list. Authorship must be strictly anonymous, and each competitor must adopt a motto and enclose with his essay a sealed envelope with his motto typewritten on the outside and his name and address inside. The title and page of any published or unpublished work to which reference is made, or from which extracts are made, must be quoted. Essays, which must be typewritten and in duplicate, are to be addressed to the Adjutant-General, Royal Marines, 54, Victoria Street, London, S.W.1, and must reach the office not later than 30th June next.

### Instructions to Competitors.

Discuss the extent to which the above dictum may be said to apply at the present time.

Comment generally on any shortcomings in organization and training which militate against the useful employment of the Royal Marines in the defence of the Empire.

For the purposes of this paper, the existing system of Imperial Defence must be regarded as representing the fixed policy of His Majesty's Government, and no drastic departure from Admiralty policy connected therewith should be regarded as being within the range of possibility.

# THE PERMANENT COURT-MARTIAL

## AND OTHER NOTES ON THE FRENCH DISCIPLINARY SYSTEM

By Captain H. Bullock, Indian Army.

AT first sight it is remarkable that the armies of France and Britain possess systems of military justice which are essentially different, unlike their training and administration, which, generally speaking, differ in detail but not in doctrine. The reason probably is that the military codes are based on the civil codes of each country; the word "civil" being used as opposed to "military," not in distinction to "criminal." So it may prove of interest to examine the broad outlines of the French code and to compare it in one's mind with the British, paying special attention to the French system of courts-martial, which differs so much from ours in almost every respect.

The French code is entitled the *Code de Justice Militaire pour l'Armée de Terre*; it will be remembered that the French Navy also is officially an army, *l'Armée de Mer*. Originally passed in 1857, it has been amended several times since, and applies to all troops, white or coloured, and to the Colonial *gendarmerie*. The introduction to the code lays down that military justice is administered by (1) courts-martial, and (2) revisionary courts (*conseils de révision*).[1]

(1) *Establishment and Location.*

Book I, part I, chapter I, provides for the establishment of permanent courts-martial (*conseils de guerre permanents*) in each army corps area and in Algeria; and chapter II makes similar provision for permanent revisionary courts in each army corps area. In time of peace, however, the functions of the military revisionary courts have been abrogated and are allotted under a law of 1906[2] to the Court of Criminal Appeal (*Cour de Cassation*).

Part II, chapter I, enacts that when one or more army corps are formed into a force in the field, one or more courts-marital shall be set up by order of the Minister of War in each active division, as well as one at the headquarters of each army and, if necessary, one at each corps headquarters (33).

[1]The numbers in parentheses throughout these notes bear reference to the appropriate articles of the French code.

[2]*Loi de Finances du 17 avril*, 1906.

Chapter II allows for a revisionary court at the headquarters of each army in the field, and authorises the army or corps commander to set up revisionary courts for each division or group of divisions and for a detachment, when the exigencies of the service render it necessary (48).

Chapter III lays down that when forces have been called into the field, whether in French territory or over its frontiers, the peace-time courts in army corps areas may take cognizance of, and have jurisdiction over, all matters as if the war-time field courts had not come into existence (42). In other words, the peace-time permanent courts carry on just the same in war.

Under chapter IV, when one or more communes or departments have been declared to be in a state of siege, the permanent courts-martial of the army corps area in which these communes or departments lie may, independently of their ordinary powers, try all crimes and misdemeanours over which they have jurisdiction, either under the *Code de Justice Militaire* or under the special laws regarding a state of siege (43).

In every place invested or besieged will be established two courts-martial; when the siege is raised, they cease to exist, except to finish off cases which have been partly heard at the time the siege terminates (44). A revisionary court is also instituted in a besieged town (48).

When courts-martial or revisionary courts already exist in a town previous to its siege or investment, their organization on the investment of the town is modified where necessary to conform to the special regulations for courts in besieged towns (50).

(2) *Composition and Appointment of Members.*

The ordinary permanent court-martial is normally composed of a colonel or lieutenant-colonel as president, and six members, namely :— one *chef de bataillon*, or *chef d'escadron*, or major; two captains; one lieutenant or *sous-lieutenant*; one *sous-officier* (3).

This composition is varied where necessary according to the rank of the accused (10); for instance, if a captain is being tried the court is composed of a colonel as president, one lieutenant-colonel, three majors and two captains. A colonel's court is made up of a *général de division* as president, four *généraux de brigade*, and two colonels. In the unusual event of a Marshal of France being brought before a court-martial, it would be presided over by a Marshal of France, with three Marshals of France or Admirals and three *généraux de division* as members.

Every court is assisted by a *commissaire de gouvernement* (who is something after the nature of our prosecutor), a judge-advocate (*rapporteur*), and a clerk of the court (*greffier*). These officials may have assistants (4 & 5). *Commissaires* and judge-advocates are chosen by the Minister of War from the available senior officers, captains, etc., whether on the active or retired lists (Article 7 read with Article 9). When a retired officer is selected, a special oath is administered to him (25).

The president and members are detailed from the officers on the active list in the area, and are normally employed on court-martial duty for a term of six months, but may be relieved at any time if their units move outside the area, etc. (6). Their appointment ordinarily rests with the G.O.C. of the area; but when the accused is a colonel, general, or Marshal of France, officers for the court are nominated by the Minister of War (8). Special regulations govern the qualification for, and appointment as, clerk of the court (29).

In case of insufficiency of officers of the prescribed rank the G.O.C. area may detail officers equal in rank to the accused or one step in rank below him (10). When a court tries several accused of varying ranks, the composition is that laid down for the trial of the senior of the accused persons (13).

Relations within the degree of uncle or nephew may not be members of the same court-martial, nor act as judge-advocate, *commissaire de gouvernement*, or clerk of the court thereon (23). An officer is disqualified from sitting on a court-martial or acting as judge-advocate if he is the parent or a near relative of the accused, or a witness, or has been engaged in litigation with the accused during the past five years, or has dealt with the case as a member of a military tribunal or in an administrative capacity, or has preferred the charge (24).

Further, no one may fill any post whatever on a court-martial who is not French by birth or naturalisation, or has not attained the age of twenty-five years (22). In the case of a revisionary court, the minimum age is thirty years (31).

The field court-martial (*conseil de guerre aux armées*) is composed of five members only, as against seven on a permanent court-martial. For example, a court trying a captain has a colonel as president, with one lieutenant-colonel, one major and two captains as members. The roles of *commissaire de gouvernement* and judge-advocate are " doubled " by a *commissaire de gouvernement rapporteur*. A clerk of the court is appointed, and assistants may be given to either of these two last-mentioned functionaries.

The members of a field court-martial are chosen from the formation in which the court is set up, be it an army, a corps, a division or a detachment (33), by the commander of formation. If sufficient officers of the prescribed rank are not available, then not more than two may be detailed whose rank is one step below the accused's. If even the latter provision does not enable a G.O.C. to get together a qualified court, the accused may be sent for trial by one of the permanent peace courts; or the Minister of War or other high officer finds " outside " officers for the court (35).

If a Marshal of France or a *général de division* is court-martialed for any offence committed during his tenure of command, no general officer who was under his orders during that period may sit on the court (36).

(3) *Provosts.*

In an army abroad, a provost marshal (*grand prévôt*) and divisional A.P.M's. (*prévôts*) are appointed (51), assisted in their judicial capacity by *greffiers* (52). They have jurisdiction over *vivandiers, vivandières*, canteen personnel, laundresses, shopkeepers, menials and all authorised sutlers and followers of the troops; as also over vagabonds and non-descripts, and prisoners of war not being officers. They may deal with offences committed by soldiers against the police, and infractions of disciplinary regulations, such offences being punishable with imprisonment not exceeding two months (271); and also can try summarily any offence the penalty for which does not exceed six months' imprisonment with or without 200 francs fine. There is no appeal against the award of a provost officer (75).

(4) *Jurisdiction of Courts-Martial.*

This term as used in the French code appears to be synonymous with our expression "application of military law." In peace-time every individual belonging to the army, whether by virtue of his enlistment, warrant, or commission, is amenable to a court-martial (55), with certain reservations, amongst which are:—

(*a*) Only those are amenable who are on the active list, or on duty which brings them directly under military control, or on special service;

(*b*) Officers and other ranks of the *gendarmerie* are not amenable to military courts in respect of offences committed in their capacity as civil police, etc. (59);

(*c*) A young soldier or a voluntary recruit is not usually amenable to a court-martial until he has joined the unit to which he is posted on enlistment (58).

Field courts-martial in war-time have jurisdiction over:—

(*a*) All persons over whom the peace courts have jurisdiction;

(*b*) All persons employed in any capacity on the staff and in the administrative services;

(*c*) All authorised menials, followers and sutlers accompanying the forces (62).

Further, if the army is operating in the enemy's country, any individual whatsoever may be tried by a court-martial who is accused of an offence under Book IV, part II of the code, that is, treachery, espionage, and the like (63).

(5) *Preparation for Trial.*

As regards preparation for trial (*instruction*), in France this is facilitated by the fact that the *gendarmerie* possess two functions; firstly, that of police; and secondly, that of soldiers. Thus their investigation of offences, marshalling of evidence, and apprehension of offenders

all form no small part of the French organization, although these duties are not exclusively assigned to the *gendarmerie* (83 & 84).[1]

The charge sheet, accompanied by the depositions, any articles impounded, etc., are sent by the G.O.C. area to the *commissaire de gouvernement* of the permanent court-martial of the area, who passes it on at once to the judge-advocate (100). The latter immediately makes arrangements for the interrogation of the accused. When it is finished, the accused is invited to sign his statement. If he refuses to do this, the fact of his refusal is noted. In any case, the accused's interrogation is witnessed by the judge-advocate and the clerk of the court (101).

Next, the witnesses are warned to attend for the judge-advocate to record what corresponds to our " summary of evidence " (102) ; if they then fail to appear, the judge-advocate himself (with the concurrence of the *commissaire de gouvernement*) may summarily fine them up to 100 francs and have them brought to give their evidence, forcibly if necessary (103). If a witness's original deposition has been made before a magistrate, his subsequent attendance before the judge-advocate may be dispensed with.

After the " summary of evidence " has been completed, the judge-advocate may, on the accused's request and with the consent of the *commissaire de gouvernement*, order the accused to be set at liberty without prejudice to subsequent proceedings. The accused may also, at any time after the completion of the interrogation and before his arraignment at a court-martial, request the G.O.C. to release him provisionally from custody (105).

(6) *Right of Defence.*

The accused has free choice of, and free communication with, an assistant in his defence. He may choose one from the army or from the legal profession ; or, with the president's permission, may nominate a parent or friend (110). Such representative has the utmost liberty of access to the accused, and has the right to demand on payment a copy of the charge, list of witnesses, etc. (112).

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[1] *Cf.* letter from T. Sydenham, Esq., to General the Marquess of Wellington, dated Limmer's Hotel, Conduit Street, 8th Dec., 1812 :—

> (*Extract*) ". . . I have had a great deal of conversation with Lord Bathurst respecting the internal state of the army, which is the subject of your despatch No. 50. He seemed to think that there would be no difficulty in carrying through such a change in the next Mutiny Act as should admit of written evidence being received by courts-martial in armies employed actively on foreign service. I explained to him the nature of the gendarmerie with the French army, and suggested that a similar system of police might be advantageously adopted in our army. He said that he would write to you upon this subject, and that the Ministry would willingly consent to any arrangement of this nature which you might think practicable and useful. . . ."—(Wellington's Supplementary Despatches, volume VII, pp. 495, 496).

(7) *Procedure at a Peace-Time Court.*

The accused, "free and unfettered" but under adequate guard, is brought before the court accompanied by his representative; and the president asks him his full name, age, profession, domicile, and place of birth (117). Should he misconduct himself in a riotous manner so as to impede the course of justice, the president may order his removal to custody, and in his absence the court may proceed to try the case as if he were present (119). Next the clerk of the court is directed to read out the convening order, the judge-advocate's final report, and any other documents which it is necessary that the court should hear. The accused is informed of the offence with which he stands charged, and is warned that the law gives him the right to make any statement that may help him in his defence. His representative is also warned to do or say nothing that is contrary to his conscience or lacking in the respect due to the law, and that he must express himself with decency and moderation (121).

No plea in bar to trial on the grounds of faulty composition of the court, or of non-eligibility of members, can be raised; though a revisionary court can subsequently take notice of such matters (122). A plea against the general jurisdiction of the court can only be raised before the court has begun to hear evidence, and is decided on a majority of votes forthwith (124). If it is over-ruled, the court proceeds to the trial of the case. A similar procedure is adopted over any point arising during the proceedings (123).

The president at any time during the proceedings may call any person whose statement appears to him necessary, though the statement of such a person is not taken on oath nor considered as evidence (125). If a witness is absent, his deposition is ordinarily read out (126), but if his evidence is essential, the proceedings may be adjourned by the vote of a majority of the court. The trial must be started afresh if the adjournment lasts more than 48 hours (129).

Other occasions for adjournment are (1) when, on the discovery that a witness has perjured himself, his arrest is ordered; and (2) when it is necessary to clear up an important point (129). The 48-hour rule applies in these cases also.

At the close of the defence, the *commissaire de gouvernement* may address the court, but the last word always remains with the accused and his representative. Then, after the president has asked the accused if he has anything more to say in his defence, the proceedings are closed (130), and the accused withdraws (131). If there is a withdrawing-room, the members proceed there; otherwise the court is cleared. The members are not allowed to communicate with anyone whatever nor to disperse until they have pronounced judgment. During their deliberations, they are accompanied neither by the clerk of the court nor by the *commissaire de gouvernement.*

Voting is carried out by secret ballot on the following questions :—

(*a*) Is the accused guilty of the act alleged ?
(*b*) Was the act accompanied by aggravating circumstances ?
(*c*) Was it committed under circumstances which constitute a legal excuse ?

and, if the accused is under the age of sixteen, the further question:

(*d*) Did the accused act knowingly ? (132).

A majority of not less than five votes to two is required to decide any of these questions against the accused (133).

If the finding is guilty, the court proceed to deliberate on the sentence. To decide this also a five to two majority is necessary ; if such is not obtained, the sentence most favourable to the accused is awarded (134). In the case of conviction on several charges, the greatest punishment only is awarded (135).

Judgment is pronounced in open court, is set forth in reasoned terms, and is signed by the president, members, and clerk of the court (140). The immediate liberation of the accused follows a finding of not guilty. If the court finds that the act of the accused, though committed, entails no punishment, he is pronounced " absolved." In neither case can he be tried again for the same offence (137).

(8) *Reference to Revisionary Courts.*

This is permitted on legal grounds only, and such courts can only rule on technical points. The whole question of the " right of appeal " is from our point of view most interesting. In France, in peace, appeal lies only to the (civil) *Cour de Cassation* (equivalent say to our Court of Criminal Appeal) and only on the grounds specified in Article 74 of the French code, which are very briefly :—(i) faulty composition of the court ; (ii) " ultra vires," i.e., outside the court's jurisdiction ; (iii) wrong sentence ; (iv) wrong procedure ; (v) prejudice of the accused by over-riding some application of his on a legal point.

The dominant principle of the French system is that on trial by appeal court it is not the accused that is tried, but the competence of the court-martial that has sentenced him. No appeal lies, for instance, on the grounds that the finding is against the weight of evidence, or that the sentence is excessive.

After the *commissaire de gouvernement* has had the judgment read over to the accused by the *greffier*, he informs him that the law gives him 24 hours within which to seek redress from a revisionary court (141). This term of 24 hours begins to run from the midnight following the verdict.[1] The accused's representative may give notice on his behalf (143), and if the accused does not give notice within the time prescribed, the sentence is put into execution during the 24 hours following the expiry of the period (146).

[1]See Article 44 of the *Loi de Finances du* 17 *avril*, 1906.

# ESTABLISHMENTS AND RETURNS

## —A REPLY

By MAJOR (TEMPY. LIEUT.-COLONEL) W. G. LINDSELL, D.S.O., O.B.E., M.C., p.s.c., R.A.

THE article by " R.A.M.C." on " Establishments and Returns " appearing in the November issue of the JOURNAL OF THE R.U.S.I., is welcomed as it calls attention to two important essentials of military administration ; essentials, however, which from their very nature discourage the study which they deserve.

The purpose of this article is to consider some further aspects of the subject and to discuss the practicability of some of the suggestions put forward by " R.A.M.C." in his paper.

In the first place it is necessary to remember, when considering the question of War Establishments, how closely they are allied to our Peace Establishments, and at the same time to bear in mind that the total strength of our peace time army is fixed annually by Parliament, and this figure cannot be exceeded.

This latter fact, taken in conjunction with the terms of service upon which soldiers are enlisted, determines the size of our army reserve at any given date, and in consequence the power of expansion of our peace time regular army to a war footing.

Not only does Parliament fix a limit each year to the size of the regular army, but it also fixes the limit of expenditure on the maintenance of that army ; if it were not for this fact it would clearly be advantageous to maintain in peace a very high percentage of trained officers and non-commissioned officers, which would much facilitate the solution of the difficult problem of expansion in time of war. When establishments are in preparation, however, the Treasury Official, in his capacity of protector of the taxpayer, requires to be convinced of the necessity for every trumpeter, lance corporal, sergeant and officer before sanction can be given for their inclusion. In consequence of the above our war establishments represent in fact the minimum number of all ranks who can perform efficiently the tactical purposes which any particular unit is designed to fulfil in our army organization.

Thus it will be seen that there is a definite limit to the size of the army we can place in the field on mobilization. This limit is determined very largely by our peace establishments, and short of a National Service Act we can only rely on popular enthusiasm to provide any new recruits we may require after war has been declared. In preparing our war establishments the greatest care must be taken to ensure that full provision is made to meet every war time need of each type of unit, and that the best possible use is made of the strictly limited numbers available for the purposes of the army as a whole.

In consequence of this we find in most cases that the totals of our different establishments often work out at some odd figure such as "998 or 492" of which "R.A.M.C." complains. He puts forward a plea in the interests of simplicity that they should be balanced off to some round number. Let us see what the effect would be if this idea was applied in the case of a company of infantry for which the present war establishment, exclusive of officers, stands at 153. To round off this figure we must increase it by seven or reduce it by three. In our existing peace time regular army there are 544 companies of foot guards and infantry of the line; to this figure we must add 672 companies for the fourteen Territorial Army Divisions, giving us a total of 1,216 companies. An increase of the war establishment of a company by seven gives us the equivalent of nearly ten battalions of infantry, exclusive of officers, while a reduction of three involves a loss equivalent to an infantry brigade. The change, too, would have far reaching effects on the ancillary services concerned in the maintenance of the army both for provision and transportation; thus though it may be true, within very strict limits, that a small alteration of the war establishment of a unit will not affect its fighting value, any change, however small, has a very considerable effect on the army as a whole.

The next point for consideration in regard to establishments is the form in which they are presented to us. In the article under review, it has been suggested that this form gives rise to certain difficulties or unnecessary complications. In this connection the various people who have to use the establishments, and the purposes for which they require them must be remembered. The existing form is designed to give all concerned the information they require in connection with their particular work. For example the Adjutant General's department requires them as a basis from which to calculate the provision that must be made for recruiting the various types and trades required for the different corps in the army. The Quartermaster General's department needs them as a basis for the provision of supplies, animals, accommodation and transport. The department of the Master General of the Ordnance will again have other uses for them in connection with the provision of ammunition and equipment of certain types. Officers in charge of records, regimental paymasters and others find in them authority for promotions.

Again, bearing in mind the ever varying nature of the country in which British troops are required to fight, country which one day calls for wheeled transport, another for pack or carrier transport, the calculation necessary in passing from one type of transport to another would be impossible without our War Establishments. Finally, there is the regimental officer who requires them for the routine duty of making out returns as well as for many other purposes. These are only a few of the many uses to which our War Establishments are put, and when these multifarious purposes are considered it will be found that the manner in which they are prepared gives all the information required in the handiest form for the majority of users. If we consider the case of a small mixed force being detached from the main army for some tactical purpose one immediately thinks of the proportion of artillery, engineer or medical services that may be required, but there are also supply, transport and ordnance services to be considered; what should be sent with the detached force for the maintenance of these essential services? A glance at the War Establishments will tell us and the column can be completed accordingly. It is because of the problems just mentioned and many others of a similar nature that we find our War Establishments drawn up in the form in which they are now issued to us.

Turning now to the question of returns. Every one hates them, every one grumbles at the necessity for them, yet in war too much emphasis cannot be laid upon the necessity for the accurate rendering of them, for on this depends the smooth working of the system of supply of reinforcements and therefore, in a large measure, the fighting efficiency of our units in the field. As responsible officers, too, we must remember that one of our first duties is to protect the personal interest of the men under our command, it is from the returns that we send in that records of service are maintained, Part II orders are compiled, track is kept of the location of individuals, and their pay and allowances are adjusted.

The principle of reducing correspondence in the field to a minimum is clearly laid down in our Field Service Regulations; it is true that in the Great War cases did occur of neglect of this principle. When one remembers, however, the enormous expansion which our army underwent and the complete lack of sufficient trained personnel to meet the necessary increase of staff, regimental and departmental offices which this expansion called for, it is small wonder that abuses did occur. The static nature of the operations throughout long periods of the war, also brought about an unavoidable increase in the number of returns required and in the amount of office work generally necessary. In the circumstances the fact that mistakes were made and avoidable trouble was caused to individuals does not indicate any fault in the system.

Since the war the whole question of the reports and returns required on active service has been examined very closely by the responsible authorities, and certain changes and improvements, tending to simpli-

fication, have been found possible. It is understood that these changes will be embodied, when the next edition of Field Service Regulations, Vol. I, is published.

If all concerned in the routine office work of our armies in war would bear in mind a few simple rules, most, if not all, of the difficulties which do arise would be overcome and our office work would be reduced in fact to a minimum in accordance with the principles of Field Service Regulations.

The points to remember are: Firstly, that a personal visit or conversation with the right individual, when such a course is possible, is generally far more efficacious than much writing. Secondly, never refer to superior authority any question that is within your own power to decide. This necessitates a sound working knowledge of existing regulations, wherein the answer to many problems can be found. Thirdly, routine information or instructions that are worth circulating are generally worth putting in orders. This saves office work and ensures that all concerned are kept properly informed. Finally, in all office work always be prompt and invariably polite; your administrative machinery will then be found to work smoothly.

# H.M. COASTGUARD IN PEACE AND WAR

By COMMANDER H. M. J. RUNDLE, O.B.E., R.N., Deputy Chief Inspector, H.M. Coastguard.

THE history of H.M. Coastguard may be said to date from 1816, in which year a special Preventive Service was formed, in order to cope with the intensive smuggling consequent on the conclusion of the Napoleonic Wars. Previously the prevention of smuggling had devolved upon Revenue Cutters, assisted on shore by "riding officers," these latter being re-inforced by detachments of cavalry in emergencies.

In its inception, and for some years afterwards, the Preventive Service was not naval in character except that it was officered by half-pay naval lieutenants. The personnel at first comprised all sorts and conditions, but in 1829 regulations were issued that only seamen and fishermen should be engaged as boatmen in the Preventive Service. It is interesting to note that the rating of "boatmen" was continued in the Coastguard until that service was re-organized in 1919, many years after the intimate association of the Coastguard with boats had ceased.

The Preventive Service remained under the control of the Customs until 1831, in which year it was re-organized and came, for administrative purposes, under the Admiralty, taking the name of Coastguard. Even then the Service was not naval in character and continued under the flag of the Customs for a further twenty-six years. In 1845, however, the value of the Service as a reserve for the Navy was recognized and thenceforth boatmen were required to sign an undertaking to serve in the Navy if called upon. During the Russian War of 1854-55 this call was made and a large proportion of the complement of the fleet which went to the Baltic under Admiral Sir Charles Napier consisted of Coastguards. This, in turn, led to the passing of the Coastguard Service Act of 1856, under the provisions of which the force passed entirely under the control of the Admiralty, the White Ensign taking the place of the Customs' flag.

The Coastguard Service Act, 1856, since repealed by the Coastguard Act, 1925, deserves notice if only for the curiously illogical provisions which it contained. The Act was designed to make better provisions for:—

(*a*) The defence of the coasts of the nation;
(*b*) The more ready manning of Her Majesty's Navy in case of war or emergency;
(*c*) The protection of the Revenue.

It is not evident how (*a*) and (*b*) could have been considered compatible, as if the Coastguard were embarked it would be at the expense of the defence of the coasts and *vice versa*. This was exemplified in the Great War and is referred to again later on.

The protection of the Revenue continued nominally to be the main peace function of the Coastguard up to 1923, although, for many years previously, it was obvious to those in close touch with conditions that it was very questionable whether, in fact, the system was suitable to modern requirements. Prevention of smuggling is now a highly specialized business, while the modern means of communication have made the " run " of the old days a practical impossibility. Still, it must be admitted that the presence of the Coastguard probably did prevent a certain amount of smuggling on a small scale, but at a cost out of all proportion to the loss of Revenue which might have resulted had they not been there. Drastic cuts in personnel were, however, made from time to time, the total in 1919, when the force was re-organized on a pensioner basis, being only about half of what it was twelve years earlier. In 1907, in fact, an Inter-Departmental Committee recommended the abolition of the Coastguard, it being claimed by the Admiralty that the protection of the Revenue was no longer a duty which should fall upon the Navy, and that the remaining provisions of the 1856 Act would be more effectively carried out by transferring all the Coastguard to the Service afloat, except those required to man permanently the war signal and wireless telegraphy stations, a personnel of about 600. The Admiralty further stated that the surplus men were not of any value on shore for Coast Defence purposes, and, on mobilization, would be sent afloat. The recommendations of the Committee were not, however, acted upon by the Government.

In addition to their duties in connection with the protection of the Revenue, the Coastguard became the agents of the Board of Trade in the matter of the care and working of the rocket life saving apparatus and the maintenance of a look-out for vessels in distress on the coasts. This duty had devolved gradually upon the Coastguard, who between 1823 and 1855 were responsible for working the apparatus, the maintenance of which was effected by a Government grant. In the latter year the management was taken over by the Customs, to be transferred two years later to the Board of Trade. A curious anomaly thus arose : a force, comprised entirely of officers and ratings of the Royal Navy, paid and maintained out of Naval Votes, performed, in peace time, duties appertaining, almost entirely, to public departments other than the Admiralty. It might here be remarked that this state of affairs was the chief factor in bringing about the change of 1923, when the Coastguard passed from the control of the Admiralty to that of the Board of Trade.

The life saving duties performed by the Coastguard led to the establishment of the chain of electrical communications round the coast

which proved so useful during the Great War, the Royal National Lifeboat Institution having, in the year 1891, drawn attention to the want of means of conveying information of the need for lifeboats between Coastguard stations and lifeboat stations. The upshot of this was the passing of a resolution in the House of Commons calling on the Government to effect the necessary communications. As a result the Government authorized the work to proceed. As time passed considerable developments took place in the scheme, largely with a view to the utilization of the communications in time of war.

Although the work of the Coastguard in peace time was mainly on behalf of other Government departments, the training of the personnel for war duties was not neglected. The force was divided into two portions, the "Signal Section" and the "Non-Signal Section," the former being earmarked for manning, in the event of war, the war signal stations around the coast—latterly wireless stations were also included —while the non-signal section were set apart for embarkation in that event. The majority of the war signal stations being, in fact, Coastguard stations, the trained personnel necessary for war purposes were immediately available when required and the wireless stations also were kept manned during peace. Half of the non-signal section were embarked every year during manœuvres, and as these men were available for manning the fleet without Royal Proclamation they formed an immediate reserve. On the 29th July, 1914, the Coastguard received the order to mobilize and proceed to their war stations.

The organization for war of the signal section of the Coastguard may here be described briefly. The signal stations consisted of two types: Port War Signal Stations and War Signal Stations. The former were situated in the approaches to Naval and defended ports; their primary duty being in connection with the Examination Service, for which purpose they worked in close co-operation with the battery commander. Ordinary signal duties were performed also. The war signal stations constituted a chain of look-out posts round the coast from which reports of all shipping movements and other matters of nautical interest were made. These stations were employed very largely in passing orders to, and receiving reports from, patrol vessels and were, as a rule, in addition to telephone communication, connected by telegraph to an adjacent Post Office. Signal stations were divided up into groups, each group being under the general control of a Naval Centre, generally situated at or near a naval port or base. The Naval Centres were staffed by officers of the Coastguard, Coastguards, writers and Post Office telegraphists and formed a clearing house for the reports received from stations in the group and from other sources upon the stretch of coast for which the Naval Centre was responsible, besides serving as an Intelligence office to the Senior Naval Officer. During the latter part of the war, base intelligence officers were appointed whose duties included the sifting and co-ordination of information received from

the Naval Centres. The organization for the distribution of intelligence had been tested during the annual manœuvres for some time before the war.

The non-signal section had not been long embarked after the declaration of war when it became evident that the nature of the hostilities necessitated the augmenting of the chain of look-outs round the coast. Consequently a large proportion of the Coastguard were disembarked and a number of Coastguard stations which had been closed upon the outbreak of war were re-opened as Coast Watching Stations, the regular Coastguard being supplemented by specially enrolled coast watchers. This organization was continued until the Armistice.

One result of the experiences of the war was that, in 1919, it was decided to re-constitute the Coastguard on a pensioner in lieu of an active service basis, with the idea that the force would be employed wholly on shore in the event of another war. It was felt also that, apart from the need for coast watching, modern conditions were such that the Coastguard were no longer suitable as a first reserve for the Fleet.

In their survey of the public departments by the Geddes Committee the Coastguard organization came under criticism owing largely to the pay and maintenance of a force employed practically wholly on work for departments other than the Admiralty being borne on Naval Votes. The upshot was the appointment, in 1922, of an Inter-Departmental Committee to inquire and report " what establishment is necessary for carrying out the civil duties of revenue protection, life-saving, coast watching, etc., now discharged by the Coastguard, what arrangements should be made for a diversion of responsibility and cost between the departments concerned, and what economies consistent with the maintenance of the necessary national services can be effected."

Summarised, the Committee's recommendations were as follows :—

(*a*) *In Peace*, the suspension of the Coastguard as such, and in lieu thereof—

(1) The retention by the Admiralty of a force, under some such title as " Naval Signalling Section," for the purpose of manning such stations as are considered necessary to conform with naval requirements ;

(2) The establishment by the Board of Trade of a force, to be known as " The Coast Watching Force," to perform the duties hitherto performed by the Coastguard in connection with the saving of life, the salvage of wrecks, and the administration of foreshores, together with certain other miscellaneous duties to which further reference is made below ;

(3) The establishment by the Board of Customs and Excise of a force, to be known as "The Coast Preventive Force," as a supplement to the existing waterguard staff to perform the duties hitherto performed by the Coastguard in connection with the protection of Revenue.

(*b*) *On the Outbreak of War*, the re-creation of a Coastguard, composed of forces (1) and (2), the latter passing by proclamation under the orders of the Admiralty.

The Government decided to adopt the recommendations of the Inter-Departmental Committee, to the effect that re-organization on the above lines would lead to substantial economies. On the 1st April, 1923, the force was re-constituted on an entirely new basis.

Of the two thousand odd serving Coastguards, some 900 were taken over by the Board of Trade, in order to form a Coast Watching Service, while the Customs utilized a further 400 for the establishment of a Coast Preventive Service. Shortly after its formation, His Majesty the King was graciously pleased to direct that the Coast Watching Service should continue to bear the title of "His Majesty's Coastguard." The Coastguard Service Act, 1856, was subsequently repealed by the Coastguard Act, 1925, which provides, *inter alia*, that "His Majesty's Coastguard shall consist of such numbers of officers and men as the Board of Trade may, with the consent of the Treasury, from time to time think fit, and shall be raised, maintained, equipped and governed by the Board and employed as a coast-watching force for the performance of the duties hitherto performed by the Coastguard on behalf of the Board, and of such other duties as may be determined by the Board." A clause provides also for the transfer of the Coastguard to the Admiralty in case of National emergency.

It is not generally known why the Board of Trade is responsible for the life saving organization on the coasts and it should be explained here that this duty devolves upon the Board under Clause (l) of Section 677, Merchant Shipping Act, 1894, which lays down that there shall be payable out of the Mercantile Marine Fund "such expenses for establishing and maintaining on the coasts of the United Kingdom proper lifeboats with the necessary crews and equipments, and for affording assistance towards the preservation of life and property in cases of shipwreck and distress at sea and for rewarding the preservation of life in such cases, as the Board of Trade direct." The lifeboat service is, of course, maintained by the Royal National Lifeboat Institution, except in a very few cases where lifeboats are maintained locally, and the relations between the Board and the Institution are of a close nature.

It will be appreciated that the prime factors in a life saving organization are :—

(1) Observing distress signals, vessels in distress or difficulties ;

(2) Initiating appropriate life saving measures.

For the execution of (1) the Coastguard maintains a constant look-out from selected positions on the coast when the weather conditions are such that there is any risk to life if, in the event of a casualty, the crew either remain on board the vessel or attempt to leave by their own boats or other resources carried on board the vessel. A general look-out is maintained at other times but even in the finest weather a certain proportion of the stations are on constant watch during the night. The circumstances under which a constant watch is to be set are defined minutely in the Instructions to the Coastguard and the degree of vigilance necessary for the needs of the moment is controlled directly by the District Officers who are in telephonic communication with all stations in their district.

As regards the initiation of life saving measures the Coastguard, in this respect, are the eyes of the lifeboat service, and the rapidity with which information can be passed to the lifeboat and other authorities in a position to dispatch assistance is of prime importance. The old system of a coast communication telephone, referred to earlier in this article, has given place to exchange connections, except in the more remote parts of the country. Consequently, instead, as in the old system, of being limited practically to inter-station communication, the Coastguard are in touch also with outside authorities. The importance of this development from a life saving point of view and its value in case of National emergency is very great indeed. In addition the Coast-guard are in touch by wireless telephony with certain light vessels on the South East and East Coasts, a selected station acting as the shore station for a group of light vessels, Ramsgate being the shore station for the Goodwin Group, Walton-on-Naze for the Harwich Group, while Cromer is being fitted as the shore station for the Yarmouth Group. A number of lighthouses are also connected to the telephone system of the country for life saving purposes.

Another source from which the Coastguard receive information of vessels in distress is the General Post Office and Admiralty Coast Wireless stations. To each of these stations there is a liaison Coastguard station to which all S.O.S. messages from vessels within a specified area round the British Isles are immediately reported by the wireless station dealing with the message. The liaison station at once passes the information to the District Headquarters of the Coastguard district off the coast of which the vessel is situated, from where the necessary life saving measures are initiated. As soon as this has been done the liaison station is informed of action being taken and in turn passes it to the wireless station for transmission to the vessel in distress. Special priority is afforded by the General Post Office to all messages on life saving service transmitted by telephone and telegraph.

Besides informing the appropriate lifeboat authorities the Coast-guard also take other measures, such as calling out Rocket Life Saving Apparatus Companies and proceeding with them to the scene of the

casualty. The large majority of the Rocket Life Saving Apparatus Companies are under the immediate charge of the Coastguard, but in localities where there are no Coastguard they are under the charge of specially selected persons. All exercises, however, are held under the supervision of officers of the Coastguard. There are some four thousand volunteers enrolled in the various companies round the coast, some of whom assist the Coastguard in watch-keeping if and when necessary.

It has not been possible to do more than describe briefly the life saving duties of the Coastguard, neither can the other duties of the force—foreshore protection, wreck and salvage, etc.—be touched upon. It now remains to refer briefly to the personnel and training, including a forecast as to their probable employment in a future National emergency.

On the transfer of the force to the Board of Trade gloomy prognostics on the probable effect on discipline were uttered in several quarters. After nearly four years' experience it can be said confidently that these have in no way been justified. The personnel consists of officers and men who have served for many years in the Royal Navy, all of whom, with a few exceptions, have had previous Coastguard experience under the Admiralty. Although, when the Coastguard Act was under discussion in the House of Lords, the Board of Trade were unable to agree to the insertion of a clause to the effect that the personnel should be drawn exclusively from the Royal Navy, they expressed their intention of drawing mainly from that source. It is assured, therefore, that there will be an inflow of men inured for many years to discipline to such an extent that it has become an ingrained habit. The term discipline is used here in its widest sense and it should not be taken for granted that the type of discipline which is suited to naval requirements is necessarily suitable in all respects for the Coastguard. Take one aspect alone : in the Navy work is collective ; in the Coastguard it is essentially individual. In the Navy a man can usually appeal to higher authority for instructions ; in the Coastguard he has to decide and act for himself. To that extent, therefore, it is necessary to eradicate certain habits engendered in the Navy and the training given to the Coastguard—while preserving the customs and traditions of the Navy appropriate to a disciplined body ashore—aims at developing individuality, initiative and the power of taking responsibility. To this the personnel have responded whole-heartedly and if perhaps they are a little jealous of their civil status, it is doubtless owing to the development of their individuality. In the event of a wreck on the coast the local Coastguard are the leaders of those who join in the rescue work and the extent to which in normal times they have gained the respect of the local community is the measure of their leadership in time of emergency.

When under the Admiralty, the Coastguard had little or no systematic instruction in their duties other than the thorough training afforded to the Signal Section. Systematic instruction is now given and periodical tests are made to ensure that the personnel reach and maintain a stated

degree of efficiency, a syllabus being laid down giving the subjects of which knowledge is required. Confidence has consequently been engendered and it is a well-known fact that if a man has confidence in his ability to do his work it is reflected in his bearing and manner.

It will be realized that the duties of the Coastguard entail a considerable amount of collection and distribution of intelligence relating to shipping casualties and the preservation of life. They are trained also to appreciate situations and to place all factors in the possession of their superior officer in a manner that will enable him to grasp the circumstances ; in addition, a certain standard of proficiency in signalling is called for.

These requirements have a very definite and high value in a life saving service, but they should likewise prove of great value in a national emergency. Nothing has yet been settled as to the role of the Coastguard in that event, but the fact remains that there is immediately available a body of trained and disciplined observers at a number of points around the coast connected electrically with the telephone system of the country and with a number of lighthouses and light vessels. In short, the peace organization of the Coastguard to-day may be said to be more readily adaptable to war requirements than it was in the past.

# GERMAN VIEWS ON TANKS

By Captain and Brevet Major F. E. Hotblack, D.S.O., M.C., p.s.c.,
Royal Tank Corps.

SEVERAL large and very well illustrated text books on tanks have been issued in Germany and Austria since the war. Another such book has appeared recently and the stream of articles on the subject in the military journals continues unabated. It is evident, therefore, that there must be considerable numbers of the public in Germany who are sufficiently interested in tanks to buy these fairly expensive books.

At first sight it seems strange to find that better text books on British tanks can be bought in German than can be obtained in English. Naturally those German soldiers who met tanks of the Allies face to face and lived to tell the tale would have an interest in the matter ; but it is evident that the general interest goes far beyond that.

## War Developments.

Two factors seem to have been primarily responsible for starting this " tank vogue."

Firstly, on 23rd October, 1918, when the German Government was being questioned as to the causes of the lack of German tanks, General Scheuch made the following official statement :—

> " The superiority of the enemy is principally due at present to their use of tanks. We have been actively engaged for a long time in producing this weapon, which is recognised now as being important."

Actually the German War Office did order several hundred tanks about this time. Until the above statement was made the German official attitude had been that the construction of tanks absorbed too much material in comparison with the results that could be achieved by their use ; stress was laid on the lack of material which was the result of the Allies' " unlawful " blockade. Such an attitude had, in a great measure, satisfied the general German public ; then to be told that, after all, sufficient material was available and that tanks were being built—too late—was a bitter blow to the German in the street and more particularly to the German in the trench.

The second factor which influenced German public opinion was that, by the Treaty of Versailles, Germany and Austria were allowed to maintain cavalry and infantry in small standing armies, but no tanks or

armoured cars whatsoever. All history is littered with records of the attraction which forbidden fruit has for the human race; certainly, to the Germans, tanks never seemed so interesting, so important or so desirable as now, when they represent something which the Allies deny to their ex-enemies.

The German military attitude towards tanks underwent many changes during the period when these weapons were being used against them; that is from the middle of September, 1916, until the end of the war. Whatever may have been the German view of our bravery, the value they put upon our military brains was a very low one and, at first, the fact that it was the English who had produced tanks prejudiced our enemy against them. Later, the ground conditions in the Ypres Salient in that wet summer of 1917, tended to reassure them that the danger of tank attacks was not a very serious one.

Stage by stage the Germans made the fatal mistake of treating the tank as a definite "thing," instead of realising that it was an "idea" in a very primitive stage of its development. Because the Mark I tank had thin armour, a small radius of action, a slow speed and required four men to drive it, they apparently assumed that these factors were permanent characteristics of a tank. Had such views been held by some non-industrial nation, it would not have been surprising, but it does seem strange that a nation like the Germans did not realise that the existing machinery could be redesigned to give a more efficient tank and that developments in scientific and commercial spheres would continue to produce harder and stronger steels and internal combustion engines of greater power and less weight. The quality of steel not only influences the strength of the armour, but it plays a dominating part in the production of a really efficient track. Each stage in such developments did, and undoubtedly will, change the capabilities and characteristics of mechanical fighting vehicles. It is just possible, however, that the German military authorities are not the only people who did not and do not fully realise the closeness between metallurgical progress and fighting efficiency.

Very many orders and instructions were issued by German G.H.Q. on anti-tank tactics; of course as far as experience goes, the Germans are, to this day, the leading authorities on anti-tank defence, an overwhelming proportion of the world's tank attacks having been delivered against them. Our practical experience in the matter and that of the French are extremely slight.

Professor Delbrück, writing after the war, stated "The German military system broke down at the point of junction between the standing army and the new recruits. The people in arms rebelled against the professional Corps of Officers." There was, certainly, for a considerable period in 1916 and 1917, a very pronounced difference in views between the German Higher Command and the front line troops. The Higher Command frequently assured the troops in the line that as long as they

" kept their heads " they had little to fear from Allied tanks. The attitude of the troops in the line was well summed up by a rather stout German N.C.O. who said that " if he had a thirty-ton tank on his stomach it would be a matter of complete indifference to him who kept his head."

The attitude of the German Higher Command changed completely in the last phases of the war. In a memorandum dated July 23rd, 1918, Ludendorff wrote :—

> " The utmost attention must be paid to combating tanks. Our earlier successes led to a certain contempt for this weapon. We must now reckon with better and more dangerous tanks."

This was not the time to start to reckon with more dangerous tanks. It was too late. The " better tanks," that is the Mark V's, which could be driven by one man and which were a vast improvement on previous machines, had already been employed at Hamel on 4th July, and were to be used a few days later in large numbers on 8th August, in the Battle of Amiens.

## TANKS OF ALL NATIONS.

Most of the post-war German books on tanks recommend a careful study of the tanks of all nations in order that the Germans may be able to put up the best possible defence against a tank attack. The Tank Handbook, published in 1926, by Captain Heigl, is a well printed volume of some 400 pages ; it has 170 illustrations and sketches. In the introduction, the author states that a thorough study of the construction and characteristics of tanks is necessary and that recent improvements in tanks have made the problem of defence increasingly more difficult. He adds " the progressive introduction of fast moving tanks is bringing about a revolution in tactics." The first chapter deals with the introduction of tanks into warfare and with the principles of their construction. The author quotes a despatch of Sir Douglas Haig's : " The whole scheme of the attack on August 8th (1918) was dependent upon tanks." General Ludendorff's description of this battle as " the Black Day of the German Army " would of course be familiar to most German readers.

Having stated that the English were the first to use tanks in war the author devotes a considerable portion of his book to a description of English tanks and English ideas about tanks. The notes and drawing of the new British light tanks are of interest. No details of the interior of these tanks are given except a statement that the engine is made by Armstrong Siddeley ; later a reference is made to the transmission and it is stated that probably three speed epicycles and no gear box are used. All the illustrations appear to have been taken from the Press ; from these photographs careful drawings of the exterior have been made. The following is an abridged description of the " latest British light tank " :—

*Armament.*—One 3 pdr. Q.F. gun in turret with all-round traverse ; three Hotchkiss machine guns in the turret, one of which is for anti-aircraft

fire ; one Hotchkiss machine gun forward, near the 3 pdr. gun ; two Vickers machine guns, one each side of the tank. Crew five.

*Armour.*—In front and on the turret, about 15 millimetres ; on the sides, about 10 millimetres ; on the top, 6 to 8 millimetres ; all of the best non-splintering armour plate. "This tank must be considered to be proof against .303 armour piercing bullets, and in its vital parts proof against a .5 machine gun."

*Capabilities.*—Maximum speed, in very favourable conditions, 40 to 45 kilometres per hour. Climbing power, 45°. "The English state that this tank will cross a six foot gap ; we must reckon on its being able to cross more than that."

*Method of Defence.*—"The defence is rendered difficult by the exceptional speed of this machine ; the perpendicular sides of the tank's hull however render it more vulnerable than would otherwise be the case."

The following is a note from Captain Heigl's book, which concerns the future of English tanks :—

> "As the Mark V tank, which is still in service, has become out of date since the war, it is intended to replace it by a new and real 'break through' tank. One is apparently under construction at Messrs. Vickers' works at Sheffield. It will probably be of considerable weight, possibly as much as 70 tons."

The tanks of all nations are described, but as many of the smaller nations, at present, only possess either French Renault or British tanks, a considerable amount of repetition in the description of these machines occurs in the book. The following is an outline of the German handbook's estimate of the present state of tank development in the various countries. It appears to be well informed :—

*Belgium.*—Two tank battalions and one reserve battalion, all of Renault tanks.

*Esthonia.*—Ten light and four heavy tanks obtained from the Allies.

*Finland.*—One tank battalion of Renault tanks.

*France.*—Forty-seven battalions of war-time tanks ; new types under trial.

*Greece.*—The project for the creation of a tank battalion has been passed, but for financial reasons the machines are not yet available.

*Italy.*—Depot, schools, etc., and three nucleus battalions. Fiat, light and heavy tanks.

*Japan.*—Two tank companies being formed ; light and heavy types under construction at the arsenal at Osaka.

*Jugoslavia.*—About six Renault tanks.

*Lettland.*—Ten British Mark V tanks and seven Renault tanks.

*Lithuania.*—About twelve tanks, recently purchased from France.

*Poland.*—One regiment and three separate battalions of Renault tanks. (The author adds that many improbable reports have been spread in Germany and Austria about a Polish super-tank; he considers that these rumours are but to camouflage the construction of sixty-five greatly improved Renault tanks).

*Roumania.*—Three companies of Renault tanks, total about seventy-five machines.

*Russia.*—Fifteen tank detachments, total about 170 tanks. Mostly British and French machines which had been sent to General Deniken. A new heavy Russian tank is said to be under construction.

*Spain.*—A Tank School was started in 1924, and a medium type of tank is under construction at the state factory at Trubia.

*Sweden.*—A few new tanks of a type similar to the British whippet tank. Completely proof against .303 armour piercing bullets.

*Tschechoslovakia.*—In 1923 a few Renault tanks were bought from the French. Now the firms of Skoda and Praga are at work on tank production.

*United States.*—One light and one heavy battalion and reserve companies; present armament Mark VIII. (The Allied tank) and French Renaults. A medium tank is under construction; weight 15-20 tons. One 6-pdr. in a turret with a separate M.G. turret above. Maximum speed 20 kilometres per hour. The Christie type of amphibious tank has been abandoned.

## TACTICS.

From a study of the operations in the latter part of the last war, the Handbook considers that the main characteristics of great tank attacks are:—

Surprise, therefore no preliminary artillery activity.

The whole artillery, after the first crash, is employed on counter battery work.

Observation areas smoked.

Special aeroplanes detailed to assist the tanks.

The objective to extend at least as far as the hostile battery areas.

The author apologises for dealing at some length with trench-warfare conditions, but explains that the real role of the new fast tanks is still undetermined and that "even the English can still only deal with the question theoretically." When one considers what the German opinion of British military ideas used to be, there is a world of praise in that word "even." The author considers that the technique of tank construction has outrun progress in tactics, but he adds, the "experience

of the war and particularly its semi-mobile closing stages lies like an open book, from which we can, and must, learn."

Two of the incidents quoted as pointing the way to the future are the action of the whippets near Villers Bretonneux, on 24th April, 1918, and that of a tank called "Musical Box" on 8th August of the same year.

In the first case, seven whippet tanks counter-attacked and discovered two German battalions in reserve in close formation; within a few minutes 400 casualties were inflicted and the remainder of the battalions dispersed. In the second case a single tank broke right through the German line and remained in action for the greater part of the day before it was finally put out of action; in the meantime "a battery had been approached from the rear and the gunners destroyed, and numerous infantry columns on roads had been engaged at ranges of from 400 to 600 yards."

An article in the "Heerestechnik" deals with the policy of post-war tank construction of various nations. The question as to whether the future lies with the heavy or with the light tank is discussed at length, the opinions of Colonel Fuller and Lieut.-Colonel Pile are quoted.

Italian views are represented by Captain Siciliano, who writes:—

> "To-day the general opinion is in favour of the construction of light tanks. There can be no doubt, however, that a proportion of heavy tanks is of importance in order that great obstacles can be crossed and a way thus prepared for the light tanks."

In the numerous opinions quoted it is of interest to note that the greatest advantage of the heavy tank is overlooked; this advantage is neither that of thick armour nor great trench-crossing capabilities, it lies in the fact that, owing to its steadiness and its size, the large tank can be designed to produce an enormous volume of fire from numerous well-placed machine guns, and can in addition carry a light Q.F. gun. The author of the article in the "Heerestechnik," however, sums up the situation very ably, as follows:—

> "The chief characteristic of the modern tank is no longer the passive power of strong armour protection, it is rather the active force of great fighting strength; tanks are weapons of attack and not perambulating dug-outs."

# THE HORSE AND THE MACHINE IN WAR

By MAJOR-GENERAL SIR PERCY HAMBRO, K.B.E., C.B., C.M.G.

On Wednesday, 20th October, 1926, at 3 p.m.

GENERAL SIR ALEXANDER J. GODLEY, K.C.B., K.C.M.G., A.D.C., General Officer Commanding-in-Chief, Southern Command, in the Chair.

THE CHAIRMAN first introduced Major-General Sir Percy Hambro and called upon him to deliver his lecture.

## LECTURE.

### INTRODUCTORY.

At the commencement of this lecture may I say that, although I shall advance certain theories almost as if they were accepted facts, I do so in order to bring these matters more easily to your notice. I hold firmly that, as yet, we have only just reached the commencement of the development of the internal combustion engine as a source of energy. The final stage is a long way ahead and a great many possibilities lie before us.

In considering the present subject, namely, "The Horse and the Machine in War," we must recognize that the subject is both complex and very fluid; also that it is to-day a matter of general discussion and consideration amongst civilized armies, because the possibility of an increase in mobility is justly regarded as a principal avenue of military progress. The advantages which may accrue thereby are so great that no country, which is not in a position to adapt its army to technical developments, could expect to withstand an attack by an army equipped with the latest scientific material. So much is this the case that a marked advance in such material made by any one army necessarily entails corresponding progress in all other armies of equal potentiality.

Though we must beware of over-estimating the actual value of technique and material, there is no doubt that the morale of an army will rise when it is known that its equipment is of the latest type,

The performance of a machine is so clearly dependent on the will and fitness of the human being, that, in considering this question, it is but fair that we should take for our discussion two evenly matched forces in a suitable country, eliminating in consequence such countries as the North-West Frontier of India or the marshy areas of Iraq, where special conditions obtain.

## General Aspect of the Subject.

Just as after the war of 1870-71 attention was specially devoted to the employment of railways and to their relation to military operations, so naturally we find that the war of 1914 brings us the subsequent problem of the mechanical vehicle on the road. Mechanical transport has become the supplement of the railway, it is the agent in the further rapid distribution of the men and material carried by the train. Sometimes even as a substitute for the trains themselves, but most often as the ally and partner of the horsed units in their duties of distribution over the long distances between railhead and the troops.

It is not proposed to discuss to-day the question of the railway in relation to the horse, except to refer to it as the only machine at present extant that is capable of transporting large numbers of horses over wide land areas.

The scope of our problem has widened since 1871. To-day we must consider the machine on land, in the air and under the water, though, with your permission, I propose to omit this last portion of our problem as it is not relevant to the points at issue.

To examine the problem thoroughly, we must look at it from the point of view of peace preparation, immediately after mobilization, and also as regards the actual results to be obtained in the field, both tactically and administratively. But, before doing so, it is perhaps as well to consider the matter somewhat broadly and to view in general what opportunities the machine will bring to the commander, and what advantages to the army, because these are the real tests as to whether or not its adoption should be accepted.

The greatest of all weapons that can be placed in the hands of the commander is surprise. Given the power to effect surprise, and the knowledge of how to take advantage of that surprise, the campaign is half won. How the surprise is actually brought about is a secret of great generalship, but mobility must be an important factor in securing it. Some great commanders have obtained surprise by simplification of manœuvre in the field, thus giving their troops unexpected activity in the presence of the enemy; others have obtained far-reaching results by the use of night marches. Napoleon sought for surprise, in addition to other ways, by the improvement of communications through road construction; thus obtaining unexpectedly rapid concentrations of his forces. The wide pavé roads of France remain as a witness of this fact.

The machine will clearly help in concentrating troops and thus to produce surprise; further, by its use the radius of action of armies can be greatly extended. It is the intention to show that it has become possible by the use of machines for large bodies of troops to cover much greater distances than formerly and, at the end of the movement, to be fit and ready for battle. This is particularly the case with mounted troops when the country is suitable. Also, I hope to convince you that, by the use of the machine, the actual battle efficiency of the troops, as well as their powers of endurance, can be raised, because all these tend to create surprise.

The increased peace demand for war mobility and also the extended use of the machine in the air will undoubtedly make themselves felt from the very inception of the next campaign. This will be initiated during the period of mobilization, the bringing of the armed forces from a peace to a war footing. That this period will be speeded up by the improvement of communications and by the use of the machine is natural. Also we must accept the premise that aircraft, air and anti-aircraft troops will be required to mobilize in a few hours and move into their war posts ready for immediate action.

As it is unlikely that a formal declaration of war will be made, "concentration" will be little more than a name; the troops of the invading force will thrust forward, using machines in their endeavour to penetrate into the invaded country. Similarly, the defenders will pass from their places of mobilization to their positions of defence, endeavouring to prevent the forward drive of the enemy. During this period we must expect both sides will make the utmost use of machines for transporting their troops; also, both in the air and in the use of heavy artillery, machines will play an important part.

To-day the power of the defenders is the greater from the aspect in which we are looking at this problem—mobility by the use of the machine—as they can, by physical obstacles, destroying bridges, felling trees across the roads, hinder the progress of any enemy columns using mechanical transport, and by this means upset or retard the pre-arranged programme of the opening moves of the campaign, a factor that may be serious to the invader. It is possible that, as a consequence of these obstacles, decisions may arise near the frontier, and that mounted troops will come early into the picture to deal with the mechanical columns thus held up. In this case the role of the mounted troops may be either one of swift attack or of covering the mechanical transport against attack during the periods of delay. In consquence of these developments and of the increased importance of local obstructions, bridging is likely to play an important part. The more so as mechanical transport cannot cross ditches or water splashes over 2 ft. 6 in. deep without adequate preparations.

The British Army trains and prepares for mobile warfare, both because it is clear that the opening phases of every campaign will be

mobile, and also because this type of war demands a higher standard of bodily and mental training than static warfare. We must recognize, however, that a tendency to stabilisation will arise as the defending or weaker force goes back on to its reserves. To prevent stabilisation, and this must be a first endeavour of the higher command, the invading force should have the ability to hit continuously and with strength. This facility demands guns of adequate weight accompanying the force, and it is but reasonable to expect that as the infantry have utilised mechanical transport to get forward, many of these batteries will be mechanicalized. Were they horsed, the weight behind the team would be such that the strength of the blow would necessarily be sacrificed to mobility. Reserves of heavy and medium batteries will also be required to assist the invading infantry to overcome defended positions. Thus, even in the earliest stages of the campaign, we see that the machine adds considerably to the strength of the troops.

### The Tactical Aspect.

We have now the basis of our ideas as to what lies before us in the opening phases of a campaign from the point of view we are studying. Mobility, activity, strength stand out clearly as part of the equipment of an army.

Mobility not only demands reconnaissance for safety's sake, but also the power to move troops with freedom across country. It is held that the coming of the machine has made this problem of reconnaissance, which is largely a cavalry problem, more important, whilst paradoxically conserving the power of the mounted troops as the quick weapon of offence in the hands of the commander. The reliability and importance of cavalry for reconnaissance was well brought out this year during divisional training when owing to low clouds aeroplanes could not be used for two days.

Due to the co-operation now established between the horse and the machine, we can divide the service of reconnaissance into three spheres; the outer guard, that is, the far distance aeroplane reconnaissance that picks up the enemy columns; the middle guard represented by the armoured cars, directed and controlled by air information; and the innermost guard of the cavalry formation. This last is also a striking force, ready either to move into a position of opportunity or to continue the service of reconnaissance.

Thus the commander has, with the co-operation of the machine and the horse, gained for his force protection against surprise and, by saving his mounted troops against the wear and tear engendered by long-distance patrols, added to their actual battle efficiency. The step from reconnaissance to attack is but a little one, yet it is of importance in that at the end of this stage comes the test of battle. As it is normal that considerable movement will take place prior to the attack, the conservation of the energy of the troops is of importance. By the use

of mechanical transport during certain trials at Aldershot this year, we have found it possible to assist materially during this and the preliminary stages of the attack by the reduction of the weight carried on the horse and the man, and also by improving the system of supply to the troops to add to their battle endurance.

For a moment let us consider this preliminary movement stage and the encounter. Whilst on the move the cavalry formation obtains through force Headquarters, and its own resources, a measure of protection from the air and the armoured cars ; as the forces draw nearer, the rival air forces become more active, and armoured cars supported by protected machine gun squadrons are detailed to hold positions of importance both on the flanks and to the front. This facilitates the progress of the cavalry and directly strengthens the hitting power of the formation. It is possible that, under cover of mechanical protection, considerable manœuvring for position beyond field gun range will take place before the attack is actually delivered, and this may be particularly the case if the air force of one side is victorious.

The employment of tanks or motorised protected machine guns to assist in the final stages of the attack and to prepare the opportunity for the mounted troops to break through the crust of opposition by the aid of additional fire-power is a further use of the machine in which lies great possibilities for the commander who can successfully bring off such an action. But the technical difficulties of a successful tank action in co-operation with mounted troops calls for the highest leadership and training, partly due to the lack of horizon of the tanks, that almost amounts to blindness even in the newest types, and renders mounted reconnaissance in the preliminary stages essential if results are to be obtained. " That the machines create opportunities in the cavalry encounter and mounted troops avail themselves of them " is perhaps a sufficiently apt misquotation to be forgiven.

The question of the weight behind the team, complicated as it will be by the fact that the mounted troops have, by the reduction of the weight carried, increased their mobility, is one which will demand attention. In war, only that which is best for the purpose in view can be permitted to obtain, and, much as we might desire to do so, sentiment must not be permitted to blind our decisions. Non-divisional brigades and batteries have in many cases already been satisfactorily mechanicalised, including their ammunition supply. The ability of the divisional artillery, when mechanicalised, to hold its place in the division on the line of march or to cross country when deployed, are two of the difficulties which complicate this problem and render it difficult of decision. The mechanicalisation of heavy artillery has made it possible to bring hitherto unthinkably heavy howitzers and guns into the field. It has permitted their employment in numbers, and has so added to their power of mobility that they may be expected to take their place in the rear of the marching columns. We may note that with the

machine that drags the guns, the blindness that exists in the tanks is not so pronounced, as the vehicles do not actually join in the battle; also the difficulty of reconnoitring battery positions and lines of advance has been overcome by the use of small Kegresse cars to replace the horse.

There are naturally many difficulties when a force is equipped with different types of motive power, and this comes out clearly in a tactical move of the infantry units of a formation by bus. The officers' chargers, the first line horsed transports of the units, the horsed artillery of the formation are all necessarily left behind and have to catch up by forced marches. Meanwhile, the unit when de-bussed, is temporarily deprived of any form of reconnaissance at a difficult time, as it is very probably pushed up, perhaps in a hurry, to save some awkward situation. The result is the commanding officers, deprived of their chargers, cannot even ascertain what the nature of the terrain is, still less reconnoitre the ground over which their men may be called upon to attack. The vulnerability of bus columns to air attacks, and their limitations as regards forward movements are somewhat similar to railway trains, except that bus columns are in a more fluid state as regards the wider choice of routes along which they can move.

## The Administrative Aspect.

We now come to consider the question of the horse and the machine administratively. Past campaigns have left behind a glorious record of the work of the horse, and we have the right to feel proud of the work he has achieved, but the world to-day is in a hurry and sets a high value on mobility.

Now although military administration is only a means towards producing success in the field, there are certain principles in connection with any new type of transport, or transportation which demand attention. Firstly, finance. As the late war has shown, this may become a very vital problem, and, although it is difficult to decide what the cost of any type of transport will be in war time, it is perhaps a fair statement that we must be prepared to risk a little extra cost now to obtain mobility in war. We must, however, in accepting this, make sure that in any decision for a change from existing types, the Army as a whole benefits by the change.

It is an old accusation, in which there is much truth, that the soldier prepares for the war of to-morrow on the lessons of yesterday and that he lacks imagination. Perhaps it is fairer to say that traditions are hard to come by and harder to disperse. It has been borne in upon the Army that one of the lessons of yesterday is that, if an army does not move administratively in thought and action with the trend of civil life and modern scientific thought, the nation itself will perish by reason of the defeat of its army. This is a serious lesson and one that greatly concerns an Empire Nation like our own, which has its armies widely scattered. But the remedy is simple on paper; there must be

a close communion between the nation and its forces. The greater the mutual progress made by inter-co-operation between these two, the nation and the armed forces, the smoother will be the process when war comes; also the greater the strength of the services, since their developments will be based on the daily life of the whole nation. I am not so sure that the nation itself as yet quite appreciates the importance of this lesson.

Further, it is a first principle of administration that, to secure satisfactory results in the field, the transport of an army must be more mobile than the troops themselves.

If these somewhat broad deductions are correct, it will be seen not only that the military needs for mobility are pressing on the Army the possible advantages of the machine, but also that the whole trend of civil life is also equally, if not so openly, pressing on the Army the problem of mechanicalization.

There is yet another reason for the prominence of this subject. To exchange horses in mid-stream is a dangerous policy. If we wish to avoid it, we must decide in peace what our policy is to be in war, and then carry it through. On the one hand it is clearly impracticable to hold, in peace, stocks of mechanical transport to meet the demands of war. By the time war comes the vehicles will be out of date, spare parts will be unobtainable, and the cost of the capital locked up during these waiting periods will be prohibitive. On the other hand, we must recognize that, owing to civil mechanicalization and various other causes connected with horse-breeding centres like Ireland, our horse supply is getting scarcer. The system of horse registration which met our requirements so well in 1914 would, I venture to think, in the great national expansion of the Army that must take place in the next war, prove inadequate by reason of the scarcity of animals.

The existing system of maintenance in the Army follows along a mechanicalized chain until it arrives immediately in rear of the troops, where, in the majority of cases, the mechanicalized chain is broken and the horse link is inserted. Hitherto this has been advisable, but there is much to be said for uniformity, a continuous mechanicalized service throughout from the base to the troops, provided a suitable type of vehicle can be found. Such arguments as simplification of supply and maintenance, continuity of system, are cogent when dealing with large forces, but naturally hold no weight until the difficulty of discovering a type of vehicle that will fulfil the military conditions, of being able to go across country where a loaded horse and cart can go, and, at the same time, be a commercial vehicle that forms an integral part of the daily life of the country, have been overcome.

Other arguments in favour of mechanicalization are, that, since one of the conditions of its adoption is the ability to leave the road, the motor vehicle is easier to hide against air attack than the horse.

By reason of its mobility and imperviousness to fatigue, distance is eliminated and time becomes the only factor, an important staff detail. The troops can be freed from their transport, the same being sent back without the fear that it cannot be recovered. If the troops withdraw in order to attack again, the roads will not be found blocked with transport. Also, consequent on the greater rapidity with which mechanicalized transport moves, the vehicle spends much less time on the roads, consequently the area in rear of the troops is generally empty; thus hindering, if not preventing, air observation. This is, in itself, a large step towards securing secrecy.

Hasty mechanicalization cannot be too strongly deprecated; the present type of vehicle in commercial use is entirely unsuited to military needs; it can neither go across country with any degree of reliability, nor, in spite of the maker's guarantees, can it march in column at the pace of the infantry soldier. The engine heats up and considerable quantities of oil and petrol are expended by running the machine on the low gears. As at present designed, mechanical transport can only move by bounds, an unsatisfactory form of movement for first line transport.

In favour of the employment of the machine there yet remains for examination the strong argument put forward that its employment will result in "increased battle efficiency and power of endurance." It has already been claimed that this results from the reduction of weight carried by the horse, and the man (infantry); also by the increased possibilities of giving the troops better cooked and a more varied supply of food in the field. Before examining this, I would first draw attention to the reason why such heavy weights are at present carried both by the horse and the man. Experience has shown the strong necessity of each of the articles carried, and because, in the past, the administrative staff have not had the means to deliver the articles within the time required, it has been decided that the troops suffered to a greater degree by the lack of the articles than by the loss of energy in carrying them. In other words the weight carried was the choice of evils. The reason that administration failed was because the means at its disposal were not sufficiently mobile in comparison with the troops, and that this was particularly so in the case of mounted troops is self-evident. I suppose it is also a fair statement to say that there is no campaign extant during which some time or another the troops have not been delayed, or held back in consequence of their transport's lack of mobility.

There is thus a considerable case for the machine in the forward services of transport. The back areas have already been mechanicalized, and in the second and third lines, the lorries, carry out their duties with the regularity and punctuality expected from railway trains. The question of man-power to carry out the change from horsed to mechanical transport presents no difficulties. It should certainly, in the case of cavalry, result in the saving of personnel and in economy.

We have been trying out during this training season since April two types of mechanicalized transport ; the six-wheeler about which there have appeared some press reports in the newspapers, and the semi-track. I do not propose to enter into the respective merits of these different types of transport, but, provided either or both are adopted as a commercial proposition in ordinary civil life, the one that is most cheaply and easily procurable is suitable for military purposes. The semi-track has been on the market for some years, and has not found much favour commercially. The six-wheeler is a new type (we received one on the 1st April) and, judging by the information I have received and the conversation I have had with motor manufacturers, it has already found great favour in countries where roads are unmetalled, and, provided that the Ministry of Transport facilitates the situation by easing taxation, it may become very popular in this country.

The nature of our trials consisted in the carriage of Lewis guns, machine guns and their crews, in the forward area, handled tactically; and, secondly, in the actual substitution of horsed by mechanical first-line transport. The experiment has been an interesting and very successful one. In carrying out our early trials, it became evident that a considerable surplus of space and power resulted in this substitution of mechanical for horsed transport, owing to the increased carrying capacity of the body and the power of the mechanical vehicle when compared with the limbered General Service wagon.

To utilise to the best advantage these opportunities which have presented themselves was one of the administrative problems of this training season. We have found, as the result of our trials, that we are able to carry the loads as laid down for the vehicles of the first-line transport in Field Service Manuals and, at the same time, to relieve the infantry soldier of approximately eight pounds, and the cavalry horse of two stone, which includes the cloak that it has so frequently to carry in war.

The principle on which the reduction of weight was made was that it was considered essential for the man to retain his weapons, and a small feed for the horse and himself, all other articles being carried in first-line vehicles. As no alteration of equipment is at present advocated, it always remains possible for any article of equipment to be re-carried temporarily or otherwise by the horse or man, should necessity arise.

The importance of this reduction of weight, if, with continued experience, it proves successful—and I am of the firm opinion it will—can hardly be exaggerated. It means an evolution in the British Army of the greatest importance. It places at once in the hands of the commander increased mobility and consequently the power of surprise. It permits either of a prolonged, and more rapid movement of troops or of the troops arriving at the end of their present length of march fresher and more ready for action. It is urged and I hope with your support, that relieved of these weights, and with the increased freedom

resulting therefrom, the battle efficiency of the Army will become so increased that it may perhaps prove to be as great an evolution as any that has occurred in the British Army since Sir John Moore introduced his " New system of training."

The problem of feeding the troops when they make prolonged movements has also been the subject of experiment, and we find that by the use of hot food containers, packed in hay and mechanically transported, the difficulty of delivering tea and hot food satisfactorily cooked is overcome. To carry this out, it is desirable to form a cooking area where the work can be carried out quietly ; when the food is half cooked, it is placed in the hot food containers where it continues to cook and remains hot for approximately eighteen hours. Tea is similarly treated. For the establishment of a cooking area Divisional Train Headquarters seems to be the most suitable location. This experiment, within the scope of our testing, has proved successful.

But a word of warning. The experiments have only been carried out during this summer's training season, a season curtailed by the coal strike, so there is yet much to be learned and tried out before perfection is attained. At the same time these are the latest administrative experiments at Aldershot, and a brief account of how we are trying to keep the Army abreast, if not ahead, of all developments of the machine as used in commercial and civil life, and its relation to war purposes.

Mention has been made of six-wheeled transport in connection with the above trials ; I propose to give you certain details as to how they move across country.[1] The French have carried out trials, and cars of this type are carrying passengers across the desert to Baghdad ; in the United States, in Spain and in South Africa, as well as in other European countries, these vehicles are being tried. Certain alterations in the original type have been made, consequent on experiments carried out in the R.A.S.C. Training College at Aldershot. Such perfect articulation has now been obtained and the under-carriage has been so much improved that under no circumstances can both back wheels leave the road surface at the same time. This was a serious fault with the first types tried out. In consequence of a better gripping surface being obtained, side-slipping is totally eliminated and 15 to 16 miles per gallon of fuel is obtained. By means of a low reduction gear-box, slopes of 1 in 1.8 on rough and marshy ground can be crossed with full loads ; and should the going prove abnormally bad there remains in reserve an attachable-detachable tread which virtually turns the vehicle into a semi-track machine. This tread, I would like to say, is the invention of the experimental section of the R.A.S.C. and has been patented by the War Office. I wish to draw your attention to the fact that as 90 per cent. of the work of transport is done on the roads and 10 per cent. across country, the wheel must be an important factor in

[1] The lecturer showed lantern slides of the six-wheeled vehicle.

our requirements. I would further like to add, quite definitely, that so far as we have been able to try it out, the six-wheeled vehicle can go anywhere a loaded limbered G.S. wagon can go, travelling the roads at 35/40 miles per hour, without fatigue, thus eliminating distance and, at the same time, carrying greatly increased loads when compared with the horsed vehicle. The pace across country naturally varies with the "going," but it is probably twice as fast as the horsed vehicle.

In view of the importance to the Army that a selected type of vehicle capable of going across country should be in common commercial use, I may mention, that beyond the springing, the whole of the six-wheeled vehicle is made from standard parts; that the price of a single 20-cwt. vehicle is a little over £400; further, consequent on the better distribution of weight and the smoother running obtained, longer hours can be worked without fatigue to the driver; loads at least 75 per cent. heavier than the normal can be carried with the same expenditure of petrol, consequent on the better distribution of the weight over the two back axles.

## Future Developments.

I have spoken about the need for reconnaissance for all bodies of troops, and emphasised the point that lack of reconnaissance means disaster. This problem, an exceedingly serious one with tanks, is, in the initial stages of the encounter, overcome to a certain extent by the use of horses, that is to say, the lines of approach are examined in so far as it is possible. But, as you will readily understand, the tank, once committed to action, is solely dependent on itself for the service of reconnaissance, and because of its confusion of vision it lacks that power of observation and the resultant quickness which is so essential in fast-moving battles. So long as motor transport is confined to the roads, the service of reconnaissance can be dismissed as of little importance, but once it becomes normal to use cross-country vehicles, then the service of reconnaissance becomes of the first importance; but, in consequence of the pace travelled and the road distances covered prior to leaving the roads, the use of the horse becomes impracticable. A road cross-country motor bicycle is becoming more and more a necessity. Without such a vehicle we may get guns and transport inextricably mixed up. Although it is surprising how much cross-country work can be done on the present motor bicycle, great fatigue is caused by the difficulty of keeping the cycle balanced, and something better is required. There is being developed a light machine that has possibilities in this direction but at present it is far different from the quiet, swift, noiseless reconnaissance carried out by a cavalry patrol.

I have spoken but little of the machine in connection with artillery. The need for mobility in the case of heavy artillery has caused these services to be mechanicalized. The problem of the artillery is rather different from that of the other arms. It must have mobility *pro rata*

with other troops, but what is required is a tractor capable of going across country rather than a transporter. Several models have been tried, but I venture to think that future developments lie in the direction of wheeled road machines, also in quietness and quickness when hauling the gun into position or withdrawing it, rather than in armoured dragons.

The need for an ammunition supply as mobile as the gun requires no arguments in its support. Naturally, the quieter it moves, the less attention it draws to itself; also the easier it can move in the dark the better.

## Conclusions.

In placing this problem before you to-day, I have spoken much of the machine, and but little of the horse; but I have tried rather to picture the Army's future need for additional mobility, its greater strength in hitting power, and its battle efficiency, rather than its past glories. The vast size of modern armies raised by the confederacy of nations that alone can make war prohibits the utilisation of the horse as the normal means of administrative transportation outside the forward zone. The machine in those zones has gained the field and holds it. Perchance, in docks and intensified transportation areas, the horse may still be found, but those will be rare occasions, and when found, men of my age and training will stop, look and reflect before they walk on. To-day the machine is being put forward to take the place of the transport horse in the forward zone, and in time it must do so in the case of both cavalry and infantry, in consequence of the greater opportunities and advantages that accrue therefrom. When that happens, Echelon "B", first line transport, will find its home with the divisional train, and the forward area will become, advantageously, the emptier. Even though Echelon "A"—machine guns, Lewis guns, ammunition, etc., become mechanicalized, we should for the present retain a certain number of pack horses in order that they may be tried out for a longer period to see whether such an additional form of transport, supplementary to the machine, is required in the very front line, or to cross the streams or bridges which mechanical vehicles cannot manage. For the artillery, perhaps the line of first compromise lies in the partial mechanicalization of the Divisional Ammunition Column, whilst a portion is kept horsed in case of abnormal conditions.

I have stated what appears to be the administrative and I must now turn to the tactical conclusions. The chargers of the infantry officers will remain, because the service of reconnaissance has, due to greater mobility, become of increased importance. The problems of surprise, reconnaissance and mobility have been dealt with at some length, and these three concern the cavalry arm perhaps more closely than any other, but cavalry has always lacked fire power, especially on the move, and has at times failed in reconnaissance by its inability to pierce the crust of the enemy's resistance and look inside. With

the co-operation of the machine, the mounted troops will find that additional fire power and support which may enable them to penetrate the outer rings of the enemy's resistance, and so come to close quarters, either to force a decision or to effect reconnaissance.

It is held that the vulnerability of cavalry when actually operating is decreased by the use of the tank, as the tank attracts to itself all natures of fire. If the cavalry commander can so adequately support his attack with such a heavy machine gun fire that the enemy's artillery cannot come into the open against his tanks, it is conceivable that even greater success than formerly lies before the horse.

In saying good-bye to the horse, as the administrative slave of the armies of the world for many generations, I cannot do less than express my admiration for the long, gallant, and patient service he has performed. We regret him no less than the generations before us who, when railways were first introduced, saw the coaches pass away as the chief means of civil transportation.

Certainly in the service of reconnaissance there can be no reliability placed on any service like there can be on the service of the horse; with the co-operation of the machine and the horse, and the co-operation of the horse and the machine, the power of the British Army increases.

As the weapon of opportunity, as the " white spearhead " of surprise, the machine has by its co-operation brought the horse additional power, through which means the horse may surpass all those glorious records of cavalry history.

What the future holds none of us can foretell, but for the present there is no substitution of the horse by the machine, only a great strengthening of the two by their mutual co-operation.

## DISCUSSION.

### Cavalry Not yet Obsolete.

General Sir R. G. Egerton: The lecturer appeared to be more concerned with mechanical transport than with the horse, so that there is little opening for a cavalry officer to make any remarks. Still there are one or two points I would like to emphasize. The lecturer spoke about reconnaissance, and how mechanical means of transport might either help or oust the cavalry from their present duties in reconnaissance. I do not doubt that the mechanical appliances in the air may have come to replace cavalry in strategic reconnaissance, but in the case of tactical reconnaissance I consider that machines are of little value. Many instances occurred in the late war, especially—so I have been informed—in Palestine, where the ground machine and the air machine both proved useless or gave negative information, whereas the situation was only cleared up tactically by cavalry.

Again, if we turn to the introduction of mechanical transport into the Army to replace the horse, and look into the faces of individuals who deal with the horse and the faces of the men who deal with the machine, you will see in the latter what, I might almost call a lack of intelligence! Many of us remember the old hansom cab driver and the bus driver, cheery men who seemed to enjoy

driving their horses. Now, what you see is a hunched-back man leaning over a wheel looking like Cerberus. I consider that the horse has a humanising effect on men, and the longer we can keep horses for artillery and for cavalry the better it will be for the Army, because thereby you keep up the high standard of intelligence in the man from his association with the horse. He has to think more quickly, and act more quickly. I hope the mechanicalization of the Army will be restricted to strategic requirements and not applied to tactical requirements, because I do not think it would be successful, even in the first line transport; I even think that in the case of first line transport, it might very well be inadvisable to use it in the tactical area on account of its noise.

### The Problem of Sea Transport.

Colonel E. D. de Burgh, D.S.O., I.A.: It seems to me that the mechanicalization of the Army will bring us face to face with a very great difficulty, when we come to deal with transportation of troops overseas. If excessive mechanicalization comes in, transporting tanks or mechanical transport across the sea is going to create a serious problem, since in those parts of the world where there are no good dock facilities, it will need most careful consideration for all arrangements necessary for the disembarkation of the force. That, of course, is a naval more than a military matter, but the difficulty is none the less very real. The closest co-operation with the Naval Service will be required in order to get these heavy vehicles ashore.

### In Africa Horses may be Useless.

Colonel Van Ryneveld (South African Air Force): I have listened to the lecture with much pleasure in view of the fact that in South Africa the subject is receiving much thought. We, too, are faced with the problem of the disappearing horse, and we have lately had one or two small campaigns, especially in the Western desert of South-West Africa, where the horse was an extremely difficult thing to move about from place to place. Even when using ordinary forms of mechanical transport, we found that we could move stores and supplies and obtain very great assistance from the machine; much more so than from the horse. In Africa conditions might be wholly against the horse.

I do not quite agree with some of the remarks which have been made about the cabby who drives a horse and the man who sits over the wheel in a car, because I think that indirectly they reflect on airmen. I do not think the man in the air is becoming a fierce hunched-up type of individual. If, indeed, this were true, why not recruit a breed of fierce-looking men to drive mechanical transport, because of the moral effect they would exercise on the enemy?

### The Chairman.

It is now my duty to sum up in a few words this interesting lecture. There are a couple of points on which I fear I must join issue with the lecturer. First of all, with regard to bus columns, he says that such things as horses, mules, cookers, and so forth, cannot be carried; yet, as a matter of fact, it has been done. In last year's manœuvres on Salisbury Plain, we did carry them and produced a battalion complete in all those respects. But the more important, and really my chief criticism concerns the lecturer's statement about the North-west Frontier. I am afraid I cannot agree with him when he says that the conditions over there are abnormal. They may be different to those prevalent in other regions, yet that

frontier is, perhaps, the place of which above all others we have to think. Although it is only a personal opinion, I still believe that, if we are going to war again, we have as great a chance, if not a better chance, of a campaign on the North-West Frontier of India than anywhere else. Accordingly, we should also think seriously of this problem in the terms of the North-West Frontier.

One thing strikes me very much in this question, that is the matter of the best type of military machine, and the importance which the lecturer attaches to this being a vehicle adapted to civilian needs. It seems to me that a very clear distinction has to be drawn between the vehicle that is to fight and the vehicle that is to carry supplies. I think it extremely likely that we shall have to face the necessity of building a fighting vehicle, or what might be called the fighting weapon, for purely military fighting requirements, while simultaneously undertaking the provision of spare parts and the provision of manufactories for them. All this is a totally different matter to the service of supply. Supply, no doubt, must follow closely civilian requirements. I think that this is the line of demarcation which we have to consider.

I think both the lecturer's and also General Egerton's remarks about reconnaissance clearly illustrated the three classes of reconnaissance, and the former's statement as to reconnaissance leading on to attack, were most interesting. We had on Salisbury Plain this year what we hope turned out to be, to those who saw it, a very interesting piece of co-operation between tanks and cavalry. This, I think, emphasized and proved convincingly what we really knew already from the experience of the war, that cavalry and tanks ought to go hand-in-hand even at the stage of development where we now are, and that there is nothing incompatible in using them together. These exercises provided a very interesting example of how the tanks by attacking some little time before the cavalry created a great opportunity for the attack of the mounted troops.

Another very interesting point, which I am glad Colonel de Burgh brought up, is this question of Naval difficulties in landing mechanical vehicles. This year, in the Southern Command, we had an interesting exercise in co-operation with the Royal Navy at Plymouth in which Admiral Haggard and I went to sea together, and landed in Start Bay. It was an exercise devised to ascertain the possibilities of landing machines instead of landing men and horses. We came up against great difficulties, difficulties greater than we had ever expected, so that our exercises for that very reason proved of the greatest value. It was brought home to me very strongly how, if it had only been a question of men and horses, we could have dropped them overboard and let them swim ashore as best they could, as we know cavalry can do, and often have done. Things have changed and we must now realize that this constitutes one of the difficulties entering into the question of machines and mechanicalization.

The lecturer's statement concerning the lightening of the weights carried by both men and horses is to any soldier a matter of tremendous importance, which is equal to a wonderful advantage in war. Anything which can be done by machines to achieve this end must be of unbounded value to the Army.

With regard to the use of armoured cars for reconnaissance, I might say, that in last year's manœuvres I found my armoured cars most useful for that purpose; they saved my cavalry very effectively. I think that if the armoured car comes, as it must do, more and more into use, it will be a cavalry weapon. So we must consider the possibility of one day seeing some distinguished cavalry regiments armed with a certain number of armoured cars and perhaps a lesser number of horses, or that we may even see certain cavalry regiments equipped with armoured cars instead of horses. Possibly that may be far distant, but I am

only suggesting that it may come about. To my mind they will be none the less a cavalry regiment, with their great traditions and great efficiency, possessing all the qualities that we associate with the best of our cavalry. I do personally hope that, if this does come to pass, there will be no question of conversion of cavalry into another arm, but that it may be a question of re-equipment on those lines. But I am not sure that it is coming very soon.

The point I always put to myself when thinking about this question of the horse and the machine is whether if I were ordered to-morrow to take command of an Army on active service—I am speaking of a mobile force—should I like to take a force composed entirely of mounted men and horses with no machines at all? My answer would be: Most certainly not. I should certainly want armoured cars and tanks. On the other hand, if I were asked, "Will you go to war with a mobile force composed only of armoured cars, tanks, and such-like?" I think I should refuse to go! I should say that I would not go without a force of cavalry. I should want, and should insist on having, an ample proportion of mounted troops.

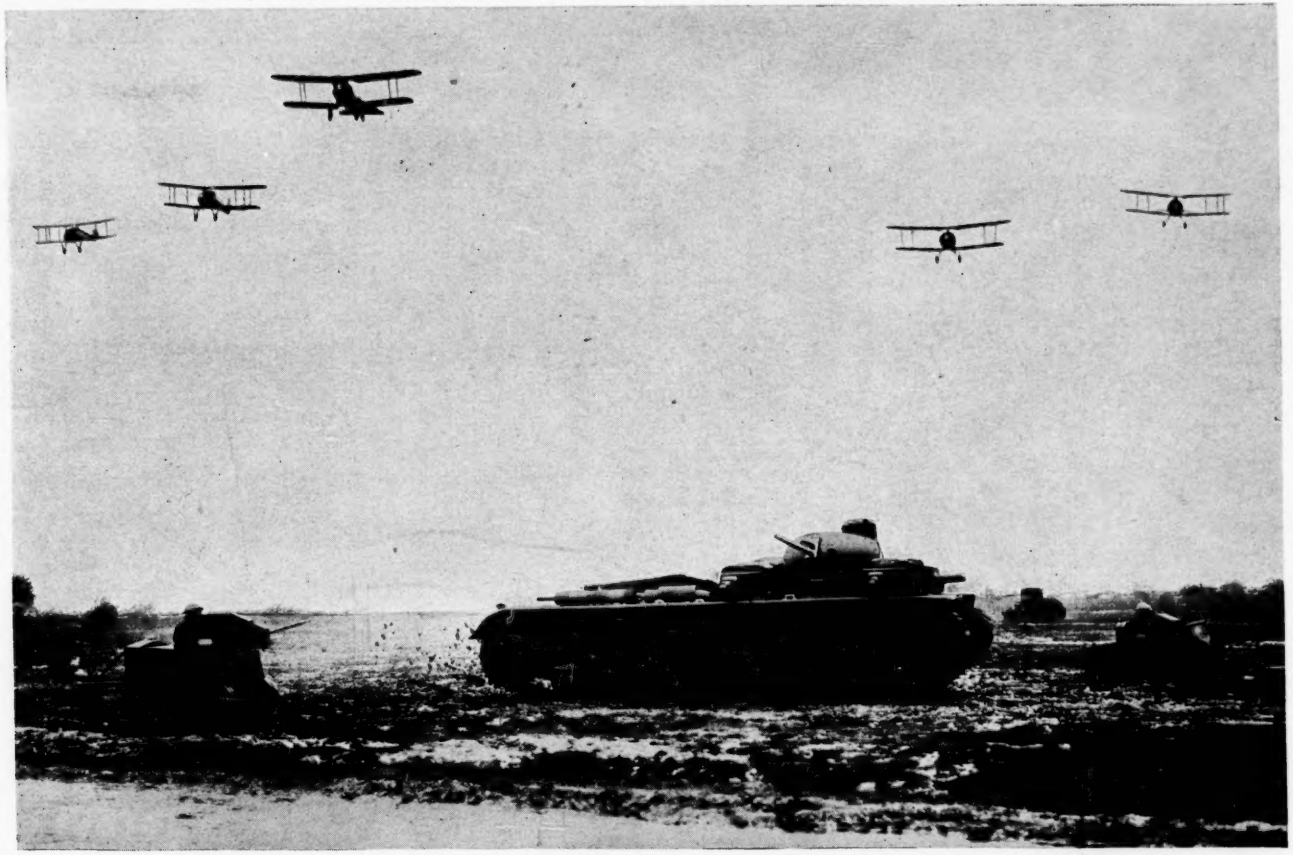
In conclusion, I wish to utter just one word of warning. Some of us who have hunted a good deal have put into practice the proverb "Look before you leap," and I think we ought to look a good deal before we leap too blindly, and until we are quite sure that we possess the type of machine best suited to military needs. It can only come by degrees, and I think, myself, that we shall always want, at any rate in our time and I hope for considerably longer, to keep up our horse supply, to keep up our mounted troops, and to have what is, to my mind, one of the finest forms of soldier that you can have, the man mounted on his horse; for the best of all combinations that this country has always so successfully produced is the man and the horse working together in a partnership and harmony to which there is no equal.

I can only end by proposing that we give a very hearty vote of thanks to Sir Percy Hambro for his admirable lecture.

The motion was carried with acclamation and Sir Percy Hambro briefly acknowledged the vote of thanks.

Admiral Sir R. G. O. Tupper brought the meeting to a close by moving a hearty vote of thanks to General Sir Alexander Godley for presiding at the lecture, which was carried with acclamation.

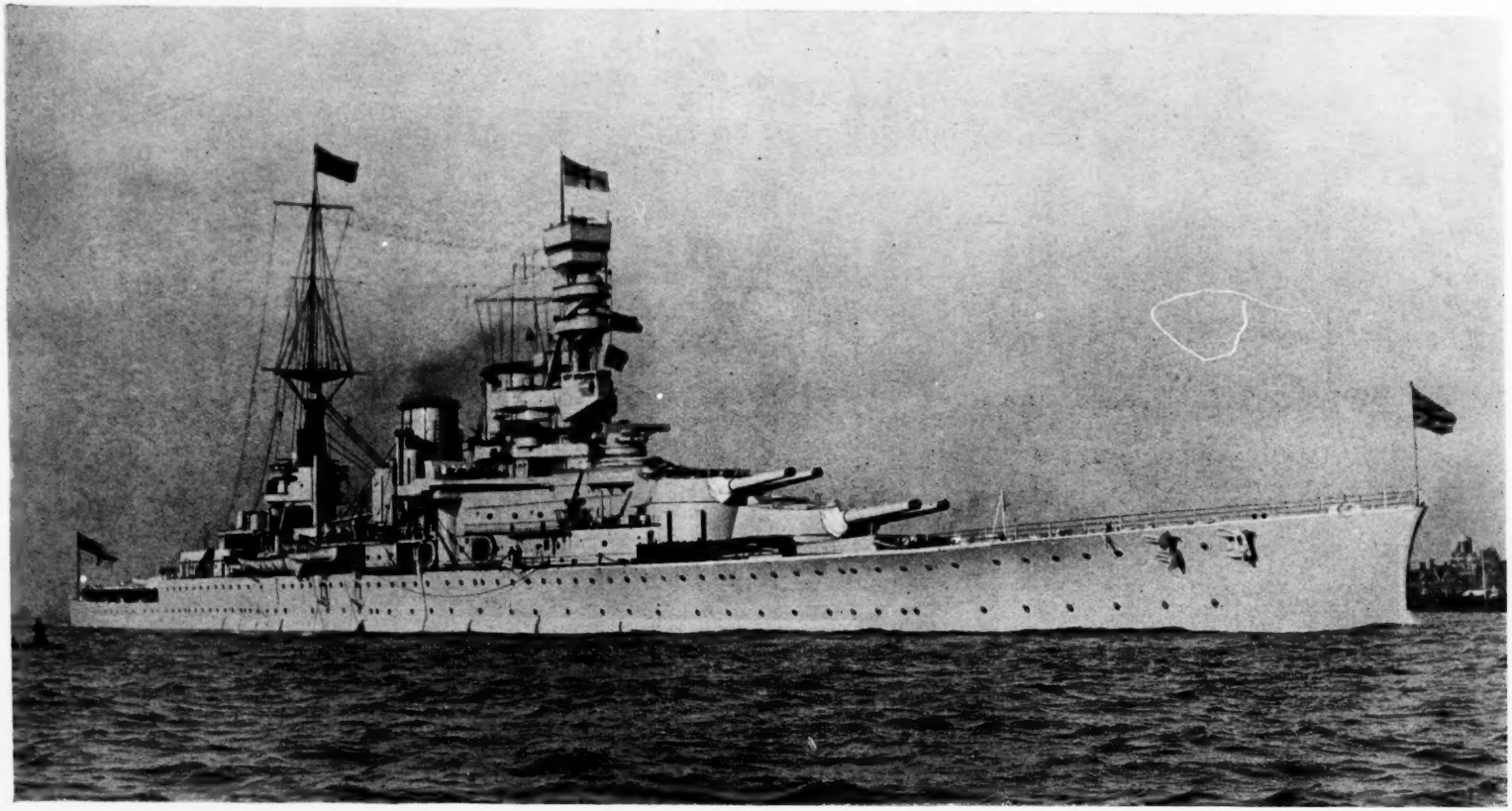
The meeting then terminated.



*Photograph by Topical Press Agency.*

**THE NEW ARMS.**

**TANKS AND AEROPLANES DEMONSTRATING BEFORE THE DOMINION PREMIERS.**



*From a Photograph by Stephen Cribb, Southsea.*

## AN IMPERIAL MISSION.

**H.M.S. 'RENOWN' LEAVING PORTSMOUTH WITH T.R.H. THE DUKE AND DUCHESS OF YORK, 6th JANUARY, 1927.**

(*See Navy Notes p.* 188).

# THE FUNCTIONS OF THE CRUISER IN RELATION TO IMPERIAL NEEDS

By CAPTAIN H. G. THURSFIELD, R.N.

On Wednesday, 1st December, 1926, at 3 p.m.
VICE-ADMIRAL SIR H. W. RICHMOND, K.C.B., in the Chair.

THE CHAIRMAN introduced the Lecturer.

## LECTURE.

THE subject of cruisers is one of very general interest. Only some three years ago the problem of how many, if any, new cruisers should be built occasioned somewhat acute controversy. That controversy, when it reached the stage of public discussion, had become largely political, and with it, neither I, as an officer on the active list, nor, I suppose, the majority of this audience are in any way concerned. I do not propose, therefore, to touch on it further. The political controversy, however, arose in the later stages only in the search for a solution to the problem. All parties to it, except I suppose, those, if any there be, who see no need for the existence even of the Royal Navy or the Royal Dominion Navies, must have started from common premises, namely, a definition of what are the functions of cruisers in relation to Imperial needs, and an estimate of what are the naval needs of the Empire in time of war.

Who would enunciate that definition and form that estimate must have made a study of war, and of war at sea in particular, from the standpoint of personal knowledge and experience. It is, therefore, a professional task, and as such is a legitimate subject for discussion in this Institution. I cannot pretend that I have anything new to say about it, anything indeed that has not been much better said already by others. It is, however, the duty of every naval officer, as I see it, to study the art of war, particularly in relation to his own profession, and think out for himself problems such as this. This paper is the result of that process in my own case, and I alone am responsible for the views expressed in it. I do not claim for it more than that it will introduce the subject for discussion.

Before attempting to define the functions of cruisers, it is desirable to be quite clear as to what one means by the word " cruiser." In the last twenty years it has meant anything, from the coastguard cruiser, a sailing vessel of about 20 tons armed with rifles to the battle cruiser of 40,000 tons and eight 15-inch guns. The Washington Conference, when it had reached agreement on the principle that limitation of naval armaments was to be confined to capital ships, had to spend some considerable time in deciding what exactly was meant respectively by the terms " capital ship," and " cruiser." Finally, in order to settle some concrete basis on which to work, they drew an arbitrary line at 10,000 tons and 8-inch guns, and now, under the Washington Treaty any ship which does not exceed either of those limits, is classed as a cruiser.

This definition, though it provides a convenient basis for a scheme of limitation of armaments, and is one easily grasped and understood by the general public, is hardly informative enough for my purpose. In starting my investigation, therefore, I sought for an authoritative definition. The Admiralty do not issue to the public any analogue for our Service of that invaluable little compendium of the military arts, the Field Service Regulations, but I consulted several confidential books and documents issued under their ægis, to which I had access. I hope I shall not lay myself open to any penalties under the Official Secrets or Naval Discipline Acts if I reveal that the only definition of a cruiser I found was " a craft designed especially for cruiser duties."

At first sight, this definition seems reminiscent of Bishop Wilberforce's well-known definition of an archdeacon—one who performs archi-diaconal functions—but as a matter of fact the comparison is unjust. The true differentiation is not between cruiser and battleship, between cruiser and destroyer, between cruiser and any other type of craft that fights afloat, but between what for want of a better expression, I may call cruiser duties, and all other duties that may fall to the sea Service in time of war. To illustrate this statement from the late War, it may be pointed out that the 10th Cruiser Squadron consisted first of ships of the " Edgar " class, known when they were originally built as first class cruisers, and later of armed merchant vessels; while another cruiser force included the " Glory," a battleship too old for employment in the Grand Fleet, the " Caronia," an armed merchant ship and, for a short period, the " Princess Royal," one of the newest battle cruisers. In the North Sea, the watching patrols, which, up to a few years earlier it had always been intended should be carried out by cruisers, were actually maintained by submarines; searching sweeps were carried out at times by cruisers, either with or without destroyers, and at others by flying boats.

Illustrations may be multiplied. In many naval manœuvres before the War, cruisers and destroyers, or even torpedo boats were employed on identical tasks. To go back further still, we find brigs, sloops or

even cutters employed on duties identical with those of frigates (which, I think we may take, without further analysis, as the equivalent of the cruiser of to-day). When Orde was driven off his station watching Gravina in Cadiz in April, 1805, by the arrival of Villeneuve's squadron from Toulon, he left behind the "Amphion," frigate, and the "Wasp" and "Beagle," sloops, "to gain intelligence of the enemy's movements, and to prevent vessels bound East . . . falling into the enemy's hands." At other times sixty-four gun ships, which were ships of the line, were employed at one and the same time on identical work.

In 1760, when Thurot, with only three frigates, though he was believed to have five, had raided Belfast Lough and landed 1,000 men at Carrickfergus, three squadrons, each consisting of one 64 and two frigates were ordered to cruise south of Ireland, west of Cape Clear, and off Brest, to intercept him if he escaped the force which was sent to Belfast Lough to attack him.

These illustrations are sufficient, I think, to justify the statement that the functions of cruisers may on occasion be discharged, and have times without number in the past been discharged, by any type of war vessel. If this is accepted, it follows that, as far as the needs of the Empire are concerned, it is impossible to separate the functions of any of the classes into which naval force is differentiated until the estimate is made of the naval force as a whole that is needed. I, therefore, start my investigation by seeking an answer to the question—what are the naval needs of the Empire.

By some it is said—"No estimate of naval needs can be made without first knowing or assuming who will be the enemy." I cannot subscribe to that statement, and I submit that there is a certain minimum of naval force which the British Empire would require in any war. This arises from the nature of the Empire itself, and the means by which it lives.

In order to make this clear, there are certain facts about the Empire, well known to everybody, to which I propose to draw attention. In the early sixteenth century, this country was sparsely populated, self-supporting, and of no great weight in the affairs of the world; from that it has grown to be one of the most densely populated countries in the world, the heart of a world-wide Empire, and the financial centre of the world. With the underlying causes of this wonderful development I am not now concerned, but its consequences have an important bearing on my argument. One consequence is that this country is no longer self-supporting. In order that our population may secure bare existence, we have to import something like three-quarters of our food. In order to import that food, we must pay for it, and that can only be done in two ways, by services, and by exports. The most important services by which we pay for imports are shipping and finance. As to the former, our Mercantile Marine carries goods by sea for customer throughout the world, wherever their movement is required. The latte

consists in providing the machinery by which international commerce is carried on. The bill on London is universally accepted as the currency of trade throughout the world, while there is hardly an insurance risk in the whole world which is not in great part carried, or covered in London. To return to exports, with the exception of coal and iron, they consist of manufactures, the products of our industries, which require for their support an uninterrupted flow of imported raw materials.

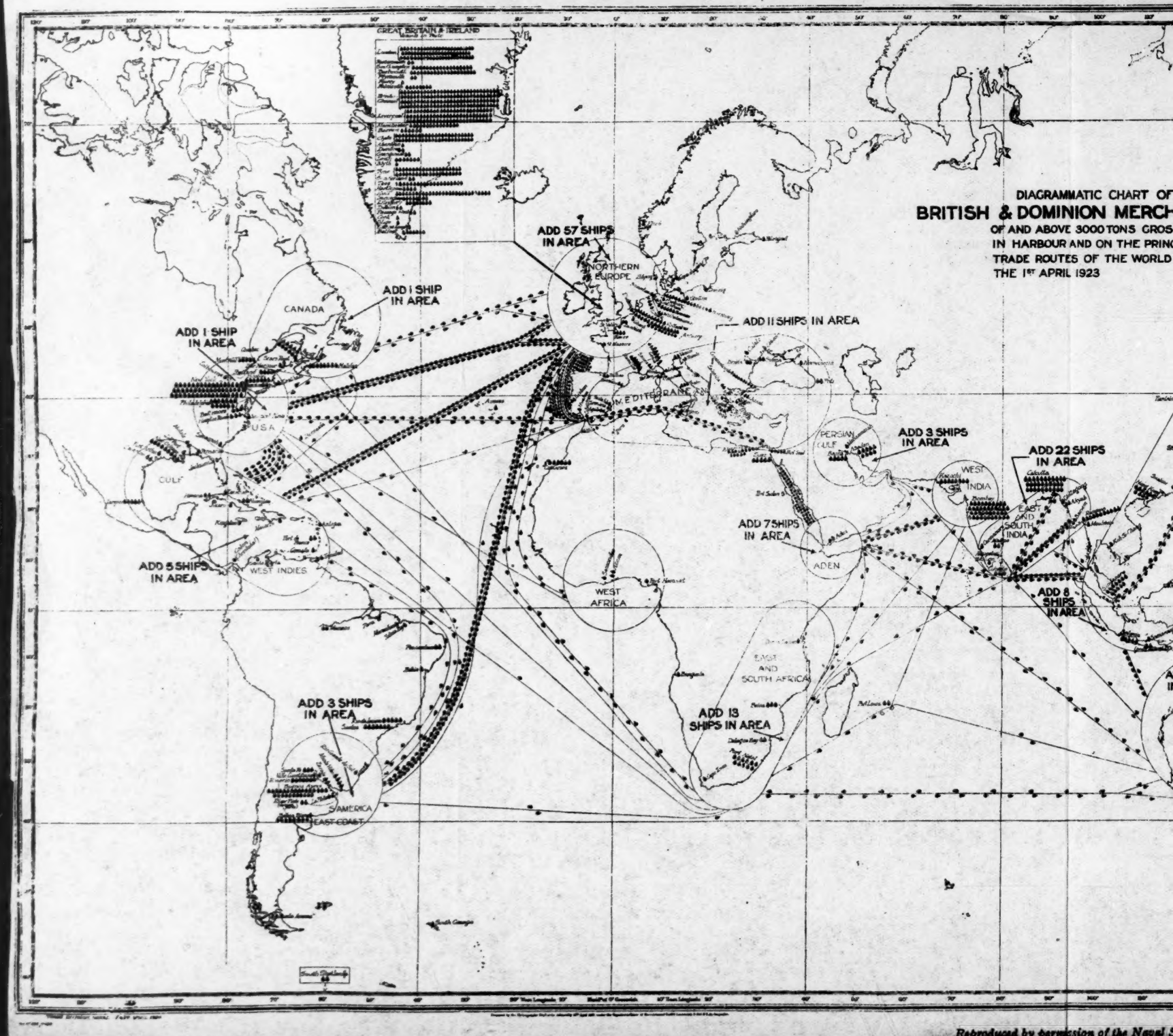
I apologise for this digression into elementary economics; it is merely for the purpose of pointing out that, unless we can maintain without serious interruption, first, a continuous flow of imported food and raw materials, second, a world-wide Mercantile Marine, and third, the position of London as the financial and commercial centre of the world, a large part of the population of this country will starve.

So much for this country alone, but what of the outlying parts of the Empire. The collapse of the mother country would not necessarily mean the collapse of the great Dominions which compose the Empire, but it would certainly mean the end of it as a single entity, a disruption into its component parts. But that disruption might come about from other causes. The Empire is held together at present by the intangible ties of common ideals and mutual interests, but its existence as a whole depends materially on free intercommunication between its component parts. That intercommunication takes place by sea, and chiefly by the British Mercantile Marine. It is not too much to say that the existence of the Empire, as well as the bare bodily sustenance of the people of these islands depends on the uninterrupted maintenance of sea communication as a whole, and the British Mercantile Marine in particular.

To help us to realize the world-wide distribution of British shipping, I would draw your attention to the accompanying chart.[1] It will be noted that the statistics from which it was compiled are three years old, but the differences between conditions then and now is negligible. It is misleading, however, to the extent, that, owing to the difficulties of diagrammatic representation, it shows the shipping on the ocean routes as being much more dense than it really is. It gives a true impression of the *relative* density of shipping on each route, but in order to be visible at all on a chart of this scale, each ship is actually drawn large enough to cover an area of some hundreds of square miles.

In 1924, over 40 per cent. of the world's shipping was British, or if we exclude the United States, whose sea-going shipping is very largely employed on their own coastal trade, very nearly 50 per cent. If a similar chart were compiled for foreign merchant fleets it would show that no nation has so wide a distribution of shipping as the British Empire and that each confines itself very largely to particular sea routes.

[1] Originally reproduced with the Gold Medal Essay for 1925, printed in the May number of the JOURNAL of last year.—Ed.

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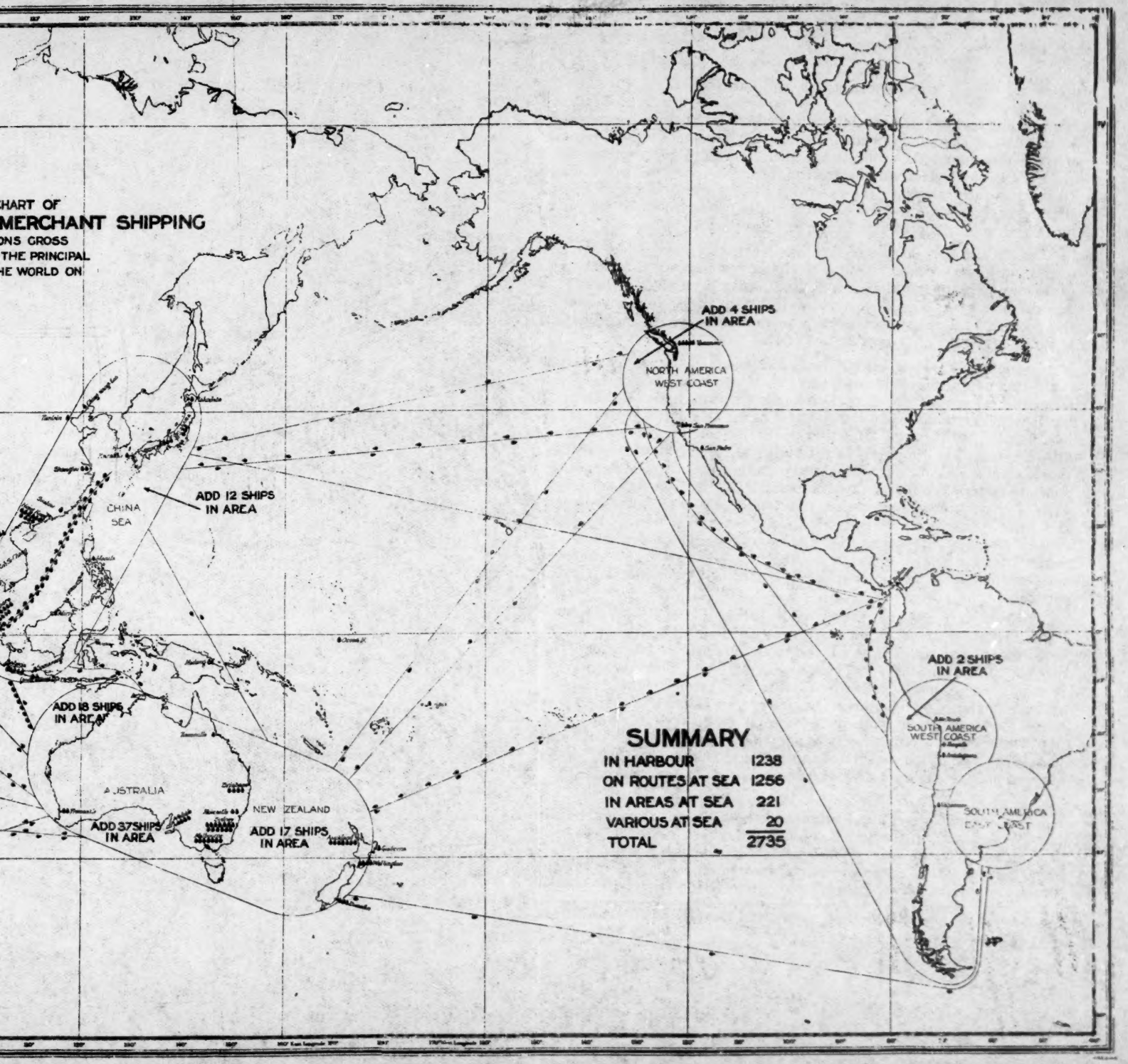


*the Naval Staff*

The situation of the British Empire and its dependence upon the sea and shipping, is unique.

In his book, "A Study of War," Admiral Sir Reginald Custance points out that in every war there is a distinction between the political object of the nation or Government and the military aims of the armed forces and that failure to distinguish clearly between them, so that the operations of armed forces are governed by the political object while there remains a military aim unattained, have always in the past led to failure to achieve either. He defines the political object in every war as security, either of the State itself, including its political system and territory, or of any right or interest which is, or is believed to be, threatened.

For example, the Napoleonic wars started from the realization by those in power in France that the security of the Revolutionary theory of government could only be achieved by its imposition on the other nations of Europe; and the realization by other nations that the very existence of their political systems was threatened by the Revolutionary doctrines of France. Each side fought for the security of its own system. In the Russo-Japanese war, the political object of the Japanese was the security of their position as an independent power, which, they thought, was threatened by the expansionist policy of Russia in the Far East. The Russian political object was the security of their position in Manchuria and their projects in Korea.

International controversies only become wars when they are carried on by armed forces instead of by peaceful means. Armed forces, therefore, are the deciding factors, and the political object can only be achieved when the opposing armed forces are destroyed in battle, or, failing the possibility of that, neutralized by the threat of battle. The military aim of the armed forces is, therefore, to destroy or neutralize the armed forces of the enemy.

In the interval which necessarily elapses before the achievement, on one side or the other of the military aim, each side seeks to weaken the opposing armed forces by impairing the material resources, moral support, or controlling will, upon which those armed forces depend. This then is the secondary military aim.

Here I would carry the argument further than does Sir Reginald Custance, and point out that the achievement of the primary military aim does not necessarily bring a war to an end; for the political object is not achieved until the enemy concedes it. If all his armed forces are destroyed or neutralized, and he still does not concede the political object with which attacker went to war, further pressure must be brought to bear to induce him to do so. The Army can do this by the occupation of territory, and the oppressive administration of the country. The Air Force can do it by direct attack on the population. So far as he is dependent on overseas communication, the Navy can do it by stopping

that communication. These are precisely their respective methods of pursuing what I have already called the secondary military aim. It will thus be seen that it may be necessary for the armed forces to continue that pursuit even after the primary military aim has been completely achieved.

Bearing these principles in mind, let me now approach the problem of estimating the naval needs of the Empire by way of hypothetical examples. To put them at their lowest, I will suppose the Empire at war with an enemy who possesses a seaboard, harbours and shipping, but no navy. What would be the function of the fleet in such a war?

As regards the primary military aim, it might co-operate with the Army and Air Force in coastal operations designed to destroy the enemy armed forces in battle; or it might neutralize those armed forces, confining them to their own country by the threat of battle if they should attempt to leave it by sea. But at sea, there is no armed force to be destroyed or neutralized, and, therefore, there is no primary aim for our Navy to pursue. It must perforce devote its energies to the secondary military aim of weakening the enemy armed forces by impairing the material resources and controlling will on which they depend. This it can do in two ways, by capture of enemy property at sea, and by commercial blockade.

If the armed forces of the enemy are thus completely neutralized, and if the enemy is dependent for its ordinary existence upon oversea communications, as nearly every nation is nowadays, the resolute and unceasing prosecution of these measures will, in time, lead to the achievement of the political object. But even in these circumstances, it is very unlikely that the Navy will, perforce, be confined for very long to the pursuit of the secondary military aim, as I shall now attempt to show.

Consider the matter from the enemy's point of view. He, too, at the outset is precluded from achieving any primary military aim at sea, for he possesses no force capable of attempting it, and men-of-war cannot be improvised. But he, too, can pursue the subsidiary aim, and it is an exceedingly tempting course of action for him to adopt. British shipping covers every sea, and no country is so dependent as is Great Britain upon the uninterrupted continuance of that shipping. It is a target at which he is bound to make an effort to strike.

The task is not difficult. In the American Civil War, the "Alabama" remained at large for two years and did damage to the shipping of the Northern States which was finally assessed for compensation at £3,000,000 though stated very much higher when the claim was first preferred. In the late War, in spite of the efficiency of our watch on the exits to the North Sea, the raider "Wolf" left Germany on the 17th December, 1916, and her escape was first suspected when the S.S. "Matheran" struck one of the mines she had laid off the Cape of Good Hope on the 26th January, 1917. We must, therefore, expect

my hypothetical enemy sooner or later to send out an armed raider, probably disguised, with the intention of weakening us by interference with the seaborne trade by which we live. The escape of a raider threatens one of our vital interests, our merchant shipping and the sea communications of the Empire generally. Whatever was the original political object of the war, to that object is now added that of the security of our shipping. This latter object can best be attained by the destruction of the force that threatens it, which, therefore, becomes the military aim of our sea forces. Where and how can they achieve it ?

The best place is, without question, at the enemy's starting point, his own ports. The primary aim, therefore, of the blockading force is to destroy any enemy armed vessel that may endeavour to gain the high seas. Since neither the number of potential raiders, nor the exact time of their attempts at escape can possibly be known with any certainty, the blockading force must be sufficient, and must be suitably placed and maintained, for dealing with them at all times without intermission, carrying on at the same time the pursuit of their secondary aims.

This is not sufficient, however. In war nothing is certain, and, as the " Wolf " demonstrated, blockading forces may be evaded, and a raider may reach the ocean in spite of all their efforts. If it does so, other measures for attaining its destruction must be adopted, for the blockading forces, not knowing that there may not be more raiders waiting opportunity to follow, cannot be diverted from the task hitherto assigned to them to pursue the fugitive over the seven seas. This will necessitate the provision and employment of further sea forces. How should these additional forces be disposed and employed, in order to achieve their primary military aim, of destroying the enemy armed forces in battle ?

All the oceans of the world are open to the raider, once he has gained an offing unobserved. We cannot cover every ocean with squadrons ; consequently, it is necessary so to dispose what we have that they will be certain of making contact with him. His objective is our merchant shipping, which is under our own control, so that to some extent we can control his movements, and make certain of meeting him Our forces must be so disposed that they will be within reach of any attack that is made upon our Mercantile Marine.

That can be achieved in more than one way. It would be possible, of course, to gather all our merchant ships into convoys, and escort each by armed force capable of dealing with any possible raider. A complete and world-wide system of convoy would make certain of bringing any raider to action fairly soon, but it has grave disadvantages. Not only does it entail the provision of enormous naval force, the greater part of which is, most of the time, entirely inactive, but it seriously hampers shipping.

The carrying power of any merchant fleet depends not only on the number of ships, but also on the number of voyages each can make in a given time. The latter depends not only on the speed of each ship, but also on rapidity in unloading and reloading her between voyages. The convoy system slows up shipping in several ways; the speed of many ships is reduced by having to sail in company with slower ships; sailings are delayed by waiting for convoys to assemble; and the chief delay is due to the congestion at the ports caused by the arrival of a large number of ships at the same time, whereby loading and unloading take far more time than if they arrived and sailed in a continuous stream. All these delays diminish the total carrying power of the national shipping by a definite proportion. It might well be in the national interest to accept a certain rate of loss by enemy action rather than impose on ourselves the inevitable rate of loss that the institution of convoy entails. Provided we can keep the rate of loss below that figure by other measures, the necessity for a convoy system may never arise. Let us consider what other measures are likely to be effective.

Steamships, in time of peace, are mostly to be found on the definite trade routes, only some few miles wide, which are the shortest routes from point to point modified as necessary by navigational or meteorological conditions. Off those routes is an empty ocean. It is to that empty ocean, far more than to naval protection, that unarmed shipping looks, in time of war, for safety against the depredations of an enemy. One of the first measures to be adopted on the outbreak of war is to provide that shipping, instead of concentrating on the well-known routes, shall disperse over the trackless spaces, to an extent that will vary with the length of each route and the comparative density of shipping that uses it. But routes converge at terminals or defiles, and however widely traffic may be dispersed over ocean voyages, there exist focal and terminal areas where its density cannot be reduced. It is in those areas that the raider, if it is to produce any measurable effect, must make its attack. "Wheresoever the carcase is, there will the eagles be gathered together."

There, then, is the position for our naval forces. If we organize the dispersion of shipping using the ocean routes; if in each terminal and focal area of seaborne trade we station a naval force, and if those forces are of such size and so disposed that, whenever an enemy raider enters those areas, a ship capable of dealing with him shall be in a position to bring him to action, we shall achieve our primary military aim. If he enters any one of those areas, we achieve it by destroying him in battle; if the threat of battle deters him from entering those areas, it neutralizes him by denying him the opportunity to achieve his own aims, except to an inconsiderable extent. The neutralization is not complete, as it would be if he were shut up in port, and for that lack of completeness we shall have to pay a price in the toll that he takes of such shipping as he can find on the high seas. But the price is not

so great as that we should have to pay for complete achievement, in the shape of the vast provision of force, and lessened capacity of shipping, entailed by the institution of world-wide convoy.

For the purpose of analysis, I have treated the two systems, convoy and diversion of shipping combined with cruiser squadrons in focal areas, as if they were clear-cut alternatives. In practice, that will very rarely be so. In any particular war, what I may call the intensity of attack is likely to vary in different localities. Sporadic raids by single armed merchant vessels could be adequately dealt with by cruising in the crowded areas. More intense attacks, such as by faster or more numerous vessels, may necessitate different measures. It may be that to ensure bringing the enemy to battle, our forces must be disposed closer to the enemy's objective (the only certain place of finding him), than the method of cruising provides. That is to say, convoy may have to be adopted in certain areas, as it was in the narrow seas in the late War to deal with submarines. This, however, is merely a matter of precisely how the squadron in any focal area shall be employed ; it does not affect the main argument.

I am now in a position to estimate the naval needs of the Empire in a war against a power which possesses a coast line, shipping and harbours, but no navy. They are :—

(1) A force sufficient to blockade and keep a constant watch on the enemy's coasts ;

(2) A force in each focal area of the Empire's shipping sufficient to ensure that no enemy raider, escaped from home or fitted out abroad, can enter that area without being brought to action.

I submit that this is the minimum naval force with which the Empire can be satisfied, for it is dictated, not by the strength, or naval provision, of any other nation, but by the nature of the Empire itself, and the means by which it lives.

Before leaving the consideration of my hypothetical war, let me briefly examine the nature of the forces that it would require. So far as they are engaged in enforcing maritime belligerent rights against merchant shipping, they could well consist of armed merchant vessels, but for two considerations ; one, that the provision of armed merchant vessels takes some considerable time, and that, consequently they would not be available for some weeks after the outbreak of war ; the other, that they might have to deal with defensively armed merchant ships, or with ships under neutral convoy. As regards the latter, this country has always maintained that International Law does not accord to vessels under neutral convoy any immunity from visit and search on the high seas, and that any resistance by escorting warships to visit and search of the vessels under convoy, renders both her and all her charges liable to seizure. This right could not possibly be enforced by an armed merchant vessel, which, owing to her vulnerability, is

practically helpless against any warship whose armament is comparable to her own. Even against another armed merchant vessel, she is at best an inefficient fighter, for though she may sink her opponent, she is just as likely as not to be sunk herself in the process, as was the "Alcantara" in her action with the German raider "Greif" in 1916. The "Carmania," indeed, sank the "Cap Trafalgar" in 1914, but only narrowly escaped destruction herself.

It must not be forgotten, moreover, that enforcing maritime belligerent rights against unarmed, or defensively armed, shipping, is only the subsidiary duty of the Navy. Its primary aim is the destruction of the enemy armed forces.

Both the blockading and watching forces off the enemy coast, therefore, and the cruising forces in the focal areas of trade, must contain at least a stiffening of men-of-war, built for fighting, and drilled to that end. These men-of-war must possess certain qualities if they are to carry out their rôle adequately. They need not be heavily armed, provided their guns are not lighter than those that might be reasonably expected to be found in enemy armed raiders. They must be seaworthy, able to keep the sea in all weathers. They must have high endurance, so that they are not compelled to spend an undue proportion of their time returning to port for refuelling. They must have as high a speed as possible in order to be capable of bringing their most probable enemy to action. And they must have sufficient protection to be able to fight similar vessels without being disabled by the first well-directed enemy shot. Without claiming to have defined what a cruiser should be it will be convenient for the present to refer to men-of-war fulfilling these requirements as cruisers.

Given a proportion of cruisers, armed merchantmen can be most useful auxiliaries to them in my hypothetical war. They are just as efficient in the enforcement of blockade. They can accommodate extra personnel for prize crews, or provide accommodation for prisoners if necessary. Their sea-keeping qualities and endurance are generally superior to those of cruisers, and their deficiencies in speed and fighting power are not serious if they can rely on the support of a cruiser in need.

I do not propose to go into such detail as to determine the actual numbers required. Not only is that outside the scope of my subject, but it would require a much closer investigation than could be compressed into the time remaining to me. I have given a rough outline of the data from which the absolute minimum of the Empire's naval needs could be calculated.

So far as I can see, this absolute minimum represents an entirely academic calculation, since it is difficult to point to any power in the world, with which there is any chance of the Empire finding itself at war, which answers to the description of my hypothetical enemy. To deduce any practical result from the investigation so far set forth,

I must carry it further, enter the realm of actual worldly affairs, and enquire into the question—What will be the effect on our naval needs, as already calculated, if our enemy possesses cruisers comparable in power to our own ?

Evidently one effect will be to increase the proportion of cruisers, and decrease the proportion of armed merchant vessels, of which each of our squadrons may be composed. Not only will the enemy's cruisers be immediately available for service on the outbreak of war, so that our watching squadrons off his coasts will have no time to spare at all before taking their positions ; but since armed merchant ships can do little or nothing by themselves to stop the exit of a cruiser from its home port, they can be employed in the watching squadrons practically only as consorts of cruisers, to extend the latter's vision, and relieve them of the blockade part of their duties. The number of cruisers available must be sufficient to establish their watch on the enemy's coast immediately on the outbreak of war, and though the number employed on that duty may probably be reduced later, as merchant vessels are armed for service, so as to free a proportion for cruising duty elsewhere, yet the number so freed will hardly provide all that will be needed for the cruising squadrons.

The possession by the enemy of a navy will have another effect ; our cruisers, while still requiring all the qualities I mentioned before, must, in addition, be heavily enough armed to be a match for the enemy cruisers. We thus reach a clear definition of the minimum naval needs of the Empire.

A cruiser squadron is required for each focal area of the Empire's shipping, of a strength to be determined after detailed investigation of the conditions of each area. Each squadron must consist of cruisers and armed merchant vessels in a proportion which will also depend on the conclusions from that examination. The cruisers must have such fighting qualities as will enable them, at least, to hold their own against the cruisers of possible enemies. In addition to these cruising squadrons of the trade routes, watching squadrons off the enemies coasts will be necessary to deal with enemy forces at their source.

Above these minimum requirements, the naval needs of the Empire depend upon the navies of our possible enemies. If the enemy possesses submarines which make the maintenance of a close watch off his bases by surface ships impossible, we must also provide submarines to undertake that close watch, and destroyers and other anti-submarine craft to deal with the enemy submarines. If the enemy possesses heavier ships, capable of destroying or driving off our watching and blockading squadrons, we must provide heavier ships to support those watching squadrons by destroying the enemy heavy ships in battle if they attempt it.

The latter consideration is what leads us eventually to the battleship, which after all is only the most powerful type of warship

we are able to devise, while we are confined to our present weapons. There is no essential difference between a cruiser and a battleship, except that the latter has greater fighting power; the battleship, indeed, may be said to have grown out of the cruiser. The dividing line is constantly shifting and having to be drawn anew, and for that reason the arbitrary line drawn by the Washington Conference is just as useful (or the reverse) as any other. Driven by men's desire to produce a fighting ship more powerful than those of his enemy, the galleys of the Middle Ages grew into the Venetian galleasses of the Battle of Lepanto and the galleons of the Armada. The galleys gave place to pinnaces, sloops and frigates, while the galleons developed into ships of the line, both in their turn to give place in the age of steam to cruisers and battleships.

Observe, however, that heavy ships by their advent do not replace lighter ships. There is in every age a practical limit to the increase in the size of ships, with the result that increased fighting power can only be given at the expense of mobility. Don John of Austria's galleasses had to be towed into action at the Battle of Lepanto, while the best sailing ships of the line of later days could generally be out-sailed by frigates. The heavy ship, therefore, cannot exert its paramount fighting power unless it is assisted by consorts of greater mobility, to extend its vision and cover the ground that it cannot reach.

Almost every Admiral in the wars of the past complained bitterly of a lack of frigates which could have collected the information that would have enabled him to exert the power of his ships of the line by bringing them into contact with the enemy. Nelson wrote in January, 1804:—

> "I am distressed for frigates, which are the eyes of the fleet; for the terrible winter we have had has obliged me to send three into port to be refitted; however, I trust we shall fall in with the enemy and do the business."

Nelson's chief need at that moment was for strategical reconnaissance, and the modern battleship's need of cruisers is the same. But the development of modern weapons has also created a need by battleships for the tactical co-operation of lighter craft. This has arisen in two ways. One cause is the offensive power conferred on light craft by the development of the torpedo, of which the range is now such that a battleship cannot rely on her own weapons to destroy light craft before they can launch their attack, and the use of which by submarines necessitates counter measures which the battleship cannot supply herself. The other cause is the revolution in tactics brought about by the high speeds and great gun-ranges of to-day. In anything less than extreme visibility, battle-fleets are in action as soon as they sight each other. Tactical movements necessary for a battle-fleet to enter action in the most favourable formation possible may often have to be completed before the enemy battle-fleet is actually sighted, so that

extended accurate reconnaissance is required right up to the moment of contact. We all know how severely the lack of this was felt at the Battle of Jutland.

I leave out of account the problem of how to counter the attacks of submarines upon battleships, and pass to the consideration of what qualities should be possessed by the other craft smaller than herself, of whose co-operation the battleship stands in need. To take first strategical reconnaissance ; the need here is high speed, large endurance owing to the greater distances to be covered, and numbers. Fighting qualities are not so important relatively, since the reconnoitring vessel can either avoid action by her speed or rely upon the support of the battle-fleet.

Next, consider anti-flotilla action, i.e., attack of the enemy flotilla at distances greater than that which the battleship can reach herself. The qualities required for this function are high speed, light draft so as not to present a good target for torpedoes, sufficient freeboard to be able to maintain their speed in a seaway, and armament sufficient to deal effectively with the enemy flotilla. High endurance is not so essential for this function, since the ship fulfilling it must necessarily be in company with the battle-fleet.

Lastly, let us consider tactical reconnaissance. This can only be carried out by gaining touch with the enemy battle-fleet, and maintaining it until the two battle-fleets make contact. The discharge of this duty almost certainly entails battle with the vessels performing the same duty on the other side. The qualities required for it, therefore, are high speed, combined with armament and protection sufficient to hold their own against their immediate opponents. For these again, very high endurance is not essential.

It will be noted that the qualities called for in each of these three classes of vessels required as auxiliaries to a battle-fleet, though not exactly the same, do not differ so largely that it is impossible to design one type which shall possess them in sufficient degree to be quite a workable compromise. The vessel, so designed, will be found practically identical with that needed for cruising on the trade routes. Again, I do not propose to pursue my investigation into sufficient detail to determine the actual number of cruisers required with the main fleet. I merely point out the data from which that determination should be made.

If we credit our possible enemy with battleships then, what I originally called our watching and blockading squadron becomes our main fleet, consisting of a battle-fleet capable of engaging the battle-fleet of the enemy, and its necessary complement of cruisers and flotilla. The strategical reconnaissance for the battle-fleet merges into the duty of watching which I deduced earlier, while the duties of blockade and exercising control over merchant shipping can still be carried out by armed merchant vessels, relying for support if needed on the units of the main fleet.

" Cruiser duties," then, it may be said, fall into two main categories, which for convenience I may call ocean duties, and fleet duties. Both can be best performed by " ships specially designed " for them, but the type of ship required for the former, ocean duties, is far less clearly defined than that required for the latter. For instance, an enemy inferior at sea, instead of providing himself with battleships of the greatest possible power, might build less powerful capital ships of high speed, and employ them as commerce raiders on the high seas. That would necessitate the employment by us of capital ships in support of all our cruiser squadrons, instead of those off the enemy bases only; as the " Princess Royal " was sent to the West Indies, the " Australia " to the Pacific coast of America, and Admiral Sturdee's squadron to the Falkland Islands, when the " Scharnhorst " and " Gneisenau " were at large; and as 64's were employed in the search for Thurot in 1760.

Without being forced to do so, we have often in the past found it convenient to employ ships designed for quite other purposes on ocean cruiser duties. Old battleships, such as the " Canopus," " Glory," etc., outclassed by modern adversaries, and consequently no longer of use to pit against an enemy battle-fleet, though deficient in speed, were well-qualified by endurance, sea-worthiness, armament, and ability to take hard knocks, to perform ocean cruiser duties. Since the Washington Naval Treaty, however, we cannot rely on old battleships to eke out a deficiency in cruisers; and the lesson of Coronel should be a warning against utilizing ships for tasks they are no longer fitted to perform.

The qualities required for fleet cruiser duties are more clearly defined; those duties cannot be adequately performed by any but vessels designed specially for them. This seems to have been only imperfectly realized in the years preceding the late War. In 1914 and 1915 the Grand Fleet was very inadequately supplied with the light cruisers, the need for which had been created by the recent development of battleships and torpedo craft, and had to rely upon the older armoured cruisers for services which they were very ill-fitted to perform, as was well illustrated by the comparative achievements of the two classes at the Battle of Jutland.

The lesson I would draw from these considerations is that, though it does not appear likely that the functions of cruisers are likely to be changed much in the near furture by new developments, the type of vessel capable of properly discharging those functions is constantly changing. Time does not permit of my pursuing the fascinating study of how the development of aircraft affects the problem, and I have purposely omitted all reference to it. I will merely state my own opinion that, except in the discharge of the one function of tactical reconnaissance, there is no present prospect of our being able to replace cruisers by aircraft; although, if aircraft can be carried and used at sea

by ocean cruisers, the latter's efficiency should be so much increased that some reduction in their numbers might be possible.

My analysis is finished, and the conclusions from it are as follows :—

The naval needs of the Empire in war are, first, a watching and blockading fleet off our enemy's coast, of strength and composition determined by the naval strength of the enemy, and secondly, a cruising squadron in each focal area of the Empire's shipping, of strength determined by the actual conditions of each area, and the fighting power of any enemy vessels which could reach it.

In the process of investigating what are the naval needs of the Empire, I have incidentally defined what are the functions of the cruiser in relation to those needs. They are :—

(1) Destruction in battle of enemy ships that gain the high seas or endeavour to interfere with the Empire's shipping, and prevention of enemy sea-borne trade by capture and blockade ;

(2) If attached to a battle-fleet, strategical reconnaissance, tactical reconnaissance (which probably entails battle with enemy cruisers), and the destruction of enemy flotilla.

The Empire's need of cruisers is based upon its vital interests, the security of which would be threatened in any war. Until wars pass away, or the Empire ceases to exist in the form in which we know it, that need will still remain. In the opening words of the Naval Discipline Act, or as we know it at sea, the Articles of War, it is " the Navy, whereon, under the good Providence of God, the wealth, safety, and strength of the kingdom chiefly depend."

## DISCUSSION.

### War Functions and Technical Considerations.

Captain E. Altham, R.N. : The lecturer has called our attention to the fact that there are often two objects in war, a political object and a military object. I would like to suggest that in future we ought to make a point of assimilating those two objects. It has been rather a failing in our conduct of wars in the past that too often there have been two distinct and, at times, somewhat antipathetic objects. Surely the military object (is it not really an " *objective* ") ought to be one which definitely advances the political *object*, because, as we read in our textbooks, the aim of any war is to " impress our will upon that of the enemy." We may defeat a particular armed force, but unless, by doing so, we have achieved the political object we shall not have attained our final object, which is to win the war.

With regard to the functions of the cruiser, may they not be, broadly, defined to be those of a sea police ; a force to secure for us the advantages which are our due, if only because they accord with the " rule of law at sea." This doctrine is fully expounded in that very striking book, which I daresay many of you have

read, "The Strength of England,"[1] by Commander G. F. S. Bowles. We have at our back a tremendous asset, if only we will use it, in the comparatively well-established—I do not say the absolutely cut and dried—understanding between most civilised nations as to what are belligerent rights at sea in time of war, but we can only secure those rights if we have an adequate Navy, and particularly an adequate cruiser force.

Coming to the question of what is an adequate force and setting aside for the moment the cruisers required in connection with the battle-fleet, we find that we want ships of this class for two distinct purposes. In the first place, they must be adequate in size and numbers to neutralize the cruiser force of the enemy, and, in the second place, they must be suitable and sufficiently numerous to draw a net round the enemy's seaborne trade in order that we may obtain that strangle-hold on him which sea-power should give us. The first calls for a force of a permanent nature and minimum standard of strength which must have some relation to the types and numbers of cruisers possessed by Foreign Powers; but in addition we must have cruisers to meet, what may be termed the geographical requirements of the Empire. These can only be determined, as the lecturer has shown us, by reviewing the sea routes and the density of shipping on those routes.

With regard to fighting qualities, which he touched on rather lightly, there is a point which I might allude to as "the hole in the Washington Agreement." It is a fact that, at present, there is nothing to prevent the Sea Powers when, under that Agreement, they are due to build new capital ships, from constructing vessels which, owing to their speed, as well as their armament, could absolutely 'mop up' the 10,000-ton cruiser. I think that is a danger we should bear very carefully in mind. That position actually exists to-day, to a certain extent, in the case of the four Japanese battle cruisers. In Eastern waters there are no warships which could neutralize the activities of those four ships, none with their speed and armament. The only ships in the world which could do so are our own battle cruisers, and, as we know, we have not, at present, a base in those waters from which they could operate for any great length of time.

The lecturer has touched on the danger of using ships of a wrong type for tasks they are no longer fit to perform. There is no more striking instance of that than the "Canopus." In connection with the tragedy of Coronel, that ship has constantly been referred to as if she had been an impregnable fortress round which Admiral Cradock's cruiser squadron might have circled in security. Actually she was a very feeble fighting machine. Her 12-inch guns, on which such reliance was placed, would have been outranged by the 8.2 guns of the "Scharnhorst" and "Gneisnau," and, although she was classified as a first-class battleship, her armour was no thicker than that of the "Good Hope," while she was so slow she could not even run away.

In considering this question of cruisers, or ships to be used for cruiser duties, therefore, we must, I suggest, pay due regard to these technical matters no less than to tactical and strategical functions.

DANGER OF PREMATURE SCRAPPING AND THE INFLUENCE OF AIRCRAFT.

CAPTAIN R. M. COLVIN, R.N.: There are only two points I should like to mention. The lecturer said that cruisers should not be used when they were of such an age, or belonged to such a class, that they were no longer suitable for the work they had to perform. While that is perfectly true, I think it can be carried too far. If that statement is taken literally, it is liable to lead to the too early

[1] See R.U.S.I. JOURNAL for November, 1926, p. 805.

scrapping of old ships. There is, no doubt, that in the late war some of the old cruisers, and some of the old battleships, although they were wrongly used in some cases, as that of the "Canopus," did in fact perform most useful service in connection with the Atlantic convoys, and so on. I think, therefore, that if that argument is used without any qualification at all, it is a dangerous argument, because it leads people who do not know to advocate scrapping ships too soon.

The only other point I should like to raise relates to the question of aircraft. The lecturer said that the use of air reconnaissance by the defending cruisers, that is to say, our cruisers, might result in it being possible to reduce the number of cruisers we build. I suggest, however, that that argument can be used the other way round also—that the raider, if she has aircraft to help her, can extend her operations further along the traffic lines. Therefore, I think it is a dangerous argument to base the possibility of a reduction in the number of our cruisers on increased powers in the air.

THE CHAIRMAN.

VICE-ADMIRAL SIR H. W. RICHMOND: The lecturer remarked at the beginning of his address on the fact that in the past, not only in the late war but in earlier wars, ships of all classes had been used as "cruisers." As a matter of fact, in the old classification of ships the word "cruiser" did not represent a class at all. The old Admiralty lists show, under the heading of "Convoys and Cruisers," all the ships of every class at sea. The Western Squadron of ships of seventy-four guns and over was a squadron of cruisers; sloops were cruisers. In fact, the word "cruiser" represented a function and not a class.

What is important in dealing with this question is that we should realize the very large number of cruisers that we require. That is the really vital thing. We are constantly being told that we do not require the cruisers which the programmes of the Admiralty recommend. But you have the whole history of war to show how vital it is to possess a large number of cruisers. With Captain Thursfield's permission, I have had placed on the back of the précis of his lecture some tables showing the growth of cruiser forces during the old wars and in 1914-1918; I suggest to you that, in spite of the different material—sailing ships in 1793 to 1810 and submarines, destroyers and battleships in 1914-1918, exactly the same lesson holds good. The columns are arranged more or less according to the corresponding classes at the different times.

It is rather curious to notice what happens to certain classes of cruisers in war. The heavy armoured cruisers of recent times, tell the same tale as the heavy frigates of fifty-six to forty-four guns. That class diminishes in war. We find that we do not want so many of them. In the French wars they fell from thirty in 1793 to fifteen in 1810—I took the latter year, because it was the peak year of cruisers in that war. In the war with Germany, we started with forty-six large cruisers and ended up with twenty-seven, a decrease of nineteen, and none were building at the end of the war. Going back a little further still, you find the same experience in the Seven Years' War. The heavy forty to fifty gun frigate ceased to be built entirely, and its numbers fell from forty-eight to twenty-one. That class of cruiser was replaced in large numbers by the smaller type, the 32-gun frigate instituted by Anson. I think that is a very significant fact. Roughly, you see, the number of heavy cruisers was reduced by about half in each of those wars. We found, in fact, in each case, that we had more heavy cruisers than we required.

But when you take another type you find quite a different story. The need for numbers of the lighter cruiser is felt immediately in every war. In the

beginning of the war in 1793 we had ninety-six of the medium class of frigates of thirty-eight to twenty guns, which now corresponds to the "light cruiser" class. We had 162 in 1810, an increase of sixty-six. Another very interesting point is to notice that in that class, as also in the smaller class of ship, very serious losses had to be replaced. We lost seventy-four frigates by shipwreck and capture between 1793 and 1810, mainly, I am glad to say, by shipwreck. But we captured from the enemy no fewer than 162. Roughly speaking, the increase in the light cruiser list during the old wars was made up by the captures. Nowadays that is a thing you cannot rely upon, for if a couple of cruisers to-day have a fight, like that between the "Emden" and the "Sydney," there is very little left of the one that gets the worst of it.

That emphasizes a very important point: that we must have ample building facilities in times of war in order that we may be able to turn out those ships very fast, for as sure as the earth goes round the sun we shall want them. To cut down the capacity of our shipyards and to take away the men required for shipbuilding is nothing more nor less than suicide.

The late war teaches exactly the same lesson as the old ones. We began the war with sixty-two effective ships called "light cruisers." Although all those ships were classed as effective, many were not so effective as their services required of them. Unfortunately, the lessons of the past had been forgotten and the dictum had gone forth that there was no room for the light cruiser. Only three types of ship, the battleship, the battle cruiser, and the ocean-going destroyer were needed. The light cruiser was not. Where that conception came from I have not the smallest idea. It was not justified in any way by the wars which had gone before, nor did this war justify it, but the opposite, for we ended it with eighty-two light cruisers, and we then had another twenty-one on the stocks, making a total of 103 built and building. Even that does not represent the increase we had to make, for we lost a great many during the war and our actual addition by construction was thirty-seven. That illustrates our perennial need for the "small" cruiser; but, I should like to remind you that the late war was not a single-handed war of this country against another country. It was a war in which we had the benefit of the use of the cruisers of Japan, France, Italy, and, in the end, of the United States as well, and in spite of that we needed those large numbers.

What, therefore, will it be like when we have to stand on our own feet, without the aid of a large number of allies? When you come to the smaller class of cruiser called the "sloop," you see even more striking evidence of the numbers required. We began the revolutionary wars with thirty-eight of that class: we ended with 246. The sloops of those wars are represented to-day by the sloops and destroyers which did the work that was done by the eighteen to ten gun sloops of 1793-1810—escorting, cruising inshore off the enemy's coasts. There, again, we have exactly the same lesson. We began the late war in 1914 with 260 built and building, of which eleven were sloops; we ended with 558 built and building, of which 117 were sloops. The net increase was 298, but the actual increase was 407, for many were lost by wreck or enemy action. That is a prodigious increase to have to make.

The fact that destroyers now possess a "battle-value" that the old sloops did not possess does not materially alter the argument; you have only to deduct a certain proportion of the destroyers for that purpose, the increase is the same. The largest proportion of the destroyers during the late war was employed in the protection of commerce to which the lecturer has alluded; in fact, they performed "cruiser" duties. Finally, we come to another class, the gun brig.

## Table A—GROWTH OF BRITISH CRUISER FORCES IN WAR.

| | Heavy Frigates, 56 to 44 guns. | | Frigates, 38 to 20 guns. | | Sloops, 18 to 10 guns. | | Brigs, 14 to 10 guns. | |
|---|---|---|---|---|---|---|---|---|
| | In Commission. | In Ordinary. | In Commission. | In Ordinary. | In Commission. | In Ordinary. | In Commission. | In Ordinary. |
| 1793 .. .. | 10 | 20 | 47 | 49 | 34 | 4 | Nil | Nil |
| | 30 | | 96 | | 38 | | 0 | |
| 1810 .. .. | 14 | 1 | 151 | 11 | 242 | 4 | 141 | 3 |
| | 15 | | 162 | | 246 | | 144 | |
| Increase or decrease .. | —15 | | +66 | | +208 | | +144 | |

| | Heavy "Armoured Cruisers" | | Light Cruisers. | | Sloops and Destroyers. | | Armed Vessels. | |
|---|---|---|---|---|---|---|---|---|
| | Built. | Building. | Built. | Building. | Built. | Building. | Built. | Building. |
| Effective, Aug. 1914 .. | 46 | 0 | 62 | 17 | 227 | 23 | Nil | Nil |
| | 46 | | 79 | | 260 | | 0 | |
| Effective, 11th Nov., 1918 | 27 | 0 | 82 | 21 | 450 | 108 | | |
| | 27 | | 103 | | 558 | | 63 | |
| Increase or decrease .. | —19 | | +24 (Total additions 37) | | +298 (Total additions 407) | | +63 | |

Note 1.—The cruisers of the Entente Powers must be added to these in estimating the cruiser strength required by the Entente.
Note 2.—The figures do not include 106 Torpedo Boats in 1914, reduced to 94 in 1918; nor the cutters in the old wars.
Note 3.—Of the Armed Vessels in 1918, 33 were Armed Merchant Cruisers; the remainder Boarding Vessels (20), Escort Vessels (10).
Note 4.—Sloops might alternatively be shown with armed vessels; in August, 1914, we had 4; in November, 1918, 117; during the war 135 were laid down.

We started the old wars with none of them; in the end we had 144. We started the late war with no armed merchant cruisers; by the end we had sixty-three. Alternatively, the growth of gun brigs could be compared with that of the sloop. That is a very prodigious growth of cruiser forces in war, and that growth, I venture confidently to prophesy, will take place again in a future war. Unless we start with an adequate number, we are bound to find ourselves in a bad situation; we are bound to suffer, as we suffered in the late war.

I have heard a great many stupid things said about cruisers, illustrating ignorance in elementary matters. A little time ago when the question of the cruiser programme was being debated, a Member said that everybody knew that trade was protected by cruisers and that battleships were not needed. Of course, cruisers play a certain active part in direct defence of trade. But it is also perfectly well known that, from a military point of view, you cannot put out detached forces unless you give them some cover. The construction of cruisers was opposed by one speaker on the grounds that "a few light cruisers in an area was all that was wanted." What these unfortunate ships would do if superior forces of the enemy came out was left out of consideration. But we, who recollect the North Sea, know what happens if detached forces are sent out without cover.

Then there is another very bad misconception arising from a false analogy with military organizations. It is argued that as in an army so many of each arm—artillery, cavalry, etc.—are allotted to each division, so the same can be done in the Navy; and, therefore, that the number of battleships determines the number of cruisers. Thus, if there should be fourteen battleships in a "fleet," you require twenty-five, thirty or some such specified number of cruisers. That does not apply at all to the Navy; for though it may be possible to say that a squadron requires $n$ cruisers, and a fleet of three squadrons, $3n$, you must remember that cruisers perform many functions away from the battle fleet; for instance, protecting trade, coastal operations, co-operation with the army, etc. That particular point was brought up at Washington, and an endeavour was made to allocate the number of cruisers which this country would be allowed on a basis of battleships. On such a calculation this country could not have defended her trade nor conducted war.

A further misconception is that the number of cruisers this country needs depends on the number of cruisers which a prospective enemy has got. Actually, the number needed depends not upon the number of ships that the enemy has got, but upon the duties which your ships have to perform. To say, for instance, that because a certain Power, which we will call A, has so many cruisers and that we have, say, 30 or 40 per cent. more, *ergo*, we have enough, is totally false reasoning; it ignores facts and duties. That particular Power may have no trade to defend, or may be in such a position that she may have to abandon her trade and so cannot defend it. She is then in a position to send out her cruisers to attack the sea communications by which we live, and we must have cruisers in large numbers to defeat that object. How large those numbers must be the late war gave us plenty of examples. Take the case of the "Emden." There were between seventeen and twenty ships directly or indirectly concerned, owing to the presence of that one ship in the Bay of Bengal. Again, Von Spee's cruiser squadron occupied directly or indirectly in one way and another the services of no fewer than thirty-eight to forty British ships of the old battleship and cruiser class. These two examples—to which many could be added, show the hollowness of the reasoning. The thing must be referred to the basis of what the ships have to do; *function* is the only basis on which the required strength can be calculated.

The question of aircraft was mentioned by the lecturer. There is always a desire to get away from the expense of building cruisers, costing a million and a half or so, and to build in their place a number of small things costing a few thousand pounds each. Cruisers, as Captain Thursfield has said, have two main functions—that of fleet reconnaissance and that of trade protection generally. The function of reconnaissance cannot be performed by aircraft by themselves. They must be carried by cruisers to enable them to reconnoitre. Anybody who knows anything about the history of reconnaissance at sea will recollect the many mistakes made in recognising ships, some of them having very serious results; information which is inaccurate is worse than none at all; and it is most difficult for aircraft to give accurate information. Even men with great experience at sea have, both in the past and in the late war, mistaken an enemy's ship and misreported her; and if a man who is well accustomed to the appearance of ships can make such mistakes, how much more will mistakes be made by people looking down from the sky from a long distance at ships with which they are not very well acquainted, particularly in thick weather? Having given great thought to this subject, I should like to say that, although I entirely agree that aircraft will assist the cruiser very materially, I concur with the lecturer that the idea that it is possible to replace cruisers by aircraft, so far as that particular function is concerned, is absolutely illusory. It is the same with the protection of trade. Aircraft may assist your cruiser to find the enemy; but they cannot bring her to action and destroy her. The only effective way of protecting trade is finding and fighting the attacker: and for that, though aircraft will help, they cannot replace, cruisers.

Finally, I would like in your name to thank the lecturer for the trouble he has taken in preparing his paper, and to assure him that we shall go away from this meeting with a good many thoughts in our mind which were not there before as the result of listening to what he has said to us this afternoon.

General The Right Hon. The Lord Horne, G.C.B., K.C.M.G., in proposing a very hearty vote of thanks to the Chairman, said: "I am sure I am expressing not only the appreciation of the Council, but of everyone present here to-day, when I say that we are deeply indebted to him for having undertaken this important duty. In his position as Commandant-Designate of the Imperial Defence College, no one could speak with greater weight on the particularly interesting subject which we have had under consideration this afternoon."

The resolution of thanks was carried by acclamation.

# COMMUNICATIONS BETWEEN ARMY FORMATIONS AND AIRCRAFT IN MOBILE WARFARE

By Flight-Lieutenant J. A. McDonald, R.A.F., No. 4 (Army Co-operation) Squadron.

WHEN we set out to consider the existing methods of communication to and from the air in mobile warfare and any possible lines of progress in this direction, we must first take due cognizance of the aeroplane itself and continue to bear in mind its inherent potentialities and limitations as a means of conveying information rapidly.

A standard by which all other methods of communication in reconnaissance might be judged is the simple process of the pilot writing his information on the usual form and dropping it in the familiar message bag. A pilot working on a divisional front may be relied on to convey and drop his message in the time it takes him to fly from his position over the enemy line to his divisional headquarters plus one or two minutes for losing height and approaching his dropping station ; this is assuming that he knows the exact location of his dropping station. The position of his headquarters is given to him by his Branch Intelligence Officer before he leaves the ground, and any movement during his patrol would be communicated to him if necessary in code, and the position of the new dropping station indicated.

There are, however, a number of important reasons why written messages should not be the normal method of communication between air and ground. There is, undoubtedly, a certain element of risk to the pilot and machine in dropping and picking up messages. Accidents have occurred while this operation was being carried out, no doubt due to the pilot concentrating on the exact location of his dropping or picking up station, and neglecting the actual flying of his machine, and natural obstacles on the ground, such as trees. An engine failure when a pilot is manœuvring to drop or pick up a message will, in most cases, give him little time to investigate the nature of the failure or execute a good forced landing.

Another argument against the dropping and picking up of messages is the valuable time lost by the pilot before he regains his former position and height. Even in such a small space of time, he has temporarily lost the picture on which his report is based and time must elapse before he has regained his height and manœuvred into his former position. This

is accentuated by the recognized procedure of flying at a low altitude for a few miles in order to avoid the risk of disclosing the position of the dropping station to the enemy. The delay may be further increased for various other reasons, such as the presence of hostile aircraft or the necessity of asking for the exact position of the dropping station by the normal method of firing a green, Verey, light and getting ground strips put out.

When flying over strange country, especially where the topography is somewhat varied, even a skilled pilot may take some time in manœuvring back to his former position and reforming the picture as it appeared to him even ten minutes previously. The enemy movement he is watching and has reported may have changed during his absence and troops he had located in the open may, by now, have taken cover.

The necessity therefore arises of receiving, and asking for information from, the pilot, while allowing him to remain in his most favourable position for observation. This must be the chief consideration in studying methods of communication to and from the air.

As a rough guide, it may be said that in war it will probably take fifteen minutes from the time the pilot has seen what he wishes to report, written his message, found his headquarters, dropped his message, and climbed back to a height of about four or five thousand feet over the enemy line. When it is mentioned that the average length of a patrol will not exceed two hours in its effective duration, it will at once be realised what a very serious interference this method of communication must cause if adopted as the normal.

### Communication between Close Reconnaissance Aircraft and Division Headquarters.

The post-war development of communication between division headquarters and the close reconnaissance aeroplane by short wave radio telephony would appear to be ideal in principle. It is the quickest known method of communication with the air. It also has the advantage of giving the pilot greater freedom when sending a message, than is the case with W/T, and the procedure for sending and receiving messages is very simple. When in communication with the radio telephony tender at division headquarters, the pilot can remain in a favourable position for observing enemy movement and need never leave this position unless he is required to fly back and pick up or drop a message, the nature of which precludes it being sent by R/T. Such messages are few in practice and refer chiefly to movements of our own troops.

The only changes likely to be apparent in the immediate future are in relation to equipment and procedure. R/T tenders are independent of their parent units in the necessary spares for their equipment and in facilities for charging accumulators. Mounted on a tractor vehicle, an R/T tender can be reasonably efficient across country, and may be relied on to accompany a cavalry division and be constantly at the disposal of

the " G " Staff. Its ability to keep in communication when on the move is a valuable asset, but cannot be relied on in a country where trees are abundant. The apparatus is detachable and may be removed from the vehicle, and operated in the open with increased efficiency, if the situation admits of the time necessary to do this.

It was thought when short wave R/T was first introduced, for close reconnaissance, that staff officers would be able to communicate personally with the pilot. In practice, this appears to be impossible. Correct articulation, alone, requires previous training, and if messages have to be queried and repeated R/T loses its greatest asset, namely, speed. Moreover, in sending a message by R/T the person transmitting is wont to speak much more quickly than the average individual can write ; this too is an important consideration.

In the air, the R/T apparatus is remotely controlled and operated by the pilot. Improvements are continually being introduced to simplify the control of the sets by the pilot. Among recent improvements is the fitting of rubber pads to the telephone ear pieces to allow these to be worn in comfort and also to assist in shutting out the engine noise. A certain amount of training is necessary before a pilot can send his messages accurately and distinctly from the air, and among the many factors affecting good transmission are, speed of the machine, direction of flight relative to the R/T tender, correct articulation and procedure. Attention to all of these points will, after preliminary training, become natural to the pilot ; in fact the ideal is only reached when they are attended to automatically, and his attention can be concentrated on his " picture."

The effective working ranges to and from the air, if not yet satisfactory for mobile warfare conditions, show continual improvement and must, necessarily, depend always on such factors as correct manipulation of the sets in the air by the pilot and his personal ability to hear at long ranges. These are largely a question of air experience, concentrated training, and the pilot's own initiative and keenness. On the ground the interference experienced from neighbouring wireless transmitting sets is often a factor affecting the maximum working ranges of the tender to and from the air. This interference is being overcome, partly by designing more selective receivers and, to a greater extent, by mutual arrangement with the Army Signal personnel regarding the sites allotted to the various transmitting sets.

No form of code is in use for the transmission of messages to and from the air by radio telephony. Information regarding our own troops, if not given by the " protractor reference " method, is dropped by message bag. The interception of information sent by radio telephony by an enemy similarly equipped is, of course, a simple matter, technically, but the value of such information and its effect on the general situation does not come within the scope of this article.

### Communication between Close Reconnaissance Aircraft and Forward Troops.

It is impossible, at present, to contemplate a design of R/T apparatus which would communicate successfully both ways between ground and air and be portable enough to be carried by battalion headquarters or by forward detachments of infantry or cavalry. On the other hand, a receiver, complete with batteries, is portable enough to be carried by a soldier on foot or mounted and is capable of receiving messages from the air up to a range of five miles.

A certain amount of the information sent by the close reconnaissance aeroplane to the R/T tender would be intercepted by these receivers and information could be sent deliberately to forward detachments of troops by pre-arrangement if the situation demanded it. The successful use of these receivers is, however, very problematical. The operator would be almost useless as a fighting unit and experience in all methods of signalling proves one-way communication to be unsatisfactory and even dangerous if information is incorrectly received. No operator, however skilled he may be, can be relied on to receive correctly a message by radio telephony if he is unable to acknowledge it and, if necessary, repeat it back by the same method as he receives it.

Although communication between the air and forward troops is not at present likely to be practicable, the defect is, in all probability, not really very serious ; it is even doubtful whether such a system is desirable.

### Communication with Tanks.

Successful co-operation between air and tank units in mobile warfare will depend on the facilities provided in the air and on the ground to insure good communication and to extract the information which is vital from that which is of a general nature only. Tank reconnaissance is a specialised form of close reconnaissance and may be combined with that duty or carried out separately. In both cases communication to and from the air by short wave radio telephony is most desirable since speed again is the essential factor.

It may be of interest to mention here that signals from tanks using R/T or W/T, particularly when they are on the move, vary both in quality and intensity due to the tank moving over rough ground and the consequent movement of the aerial and of the apparatus. A trained listener has no difficulty in identifying such signals as originating from tanks and, in the air, a pilot, even though he has no previous knowledge of the tanks whereabouts would, if he heard their signals, know at once that they were operating within a few miles radius of his position, while the strength of the signals would be of assistance in helping him to locate them.

To prevent their location being discovered by direction finding apparatus it may be necessary, in future, under certain circumstances,

for tanks to adopt a "wireless silence" in a similar method to that carried out sometimes by the fleet.

No form of communication with tanks is likely to be considered which necessitates the aeroplane manœuvring in actual close proximity to them as, for instance, is necessary when dropping or picking up messages. Any display of visual signals by the tanks would be equally undesirable. Tanks must communicate from hidden positions and when camouflaged with screens or brushwood in the open, without attracting attention. The disclosure to the enemy of a tank rendezvous might mean the failure of a carefully planned operation, and vital though the communication might be, it must not risk disclosure of position.

A pilot engaged on close reconnaissance may send down information on enemy dispositions which is useful to the tank commander and he may be actually detailed by his Branch Intelligence Officer to search for information particularly required by the tanks and to send this information to the R/T tender at division headquarters in the ordinary course of his patrol. Such information, if acquired, can reach the tank commander by two methods, i.e., by being forwarded by the "G" Staff at division headquarters direct to the unit concerned, or by one or more R/T signal tanks listening-in on the close reconnaissance wave-length and intercepting the messages being passed. The first method is simplified, as a Royal Tank Corps officer is available at division headquarters who can scrutinize the information sent down and if necessary ask questions direct to the close reconnaissance pilot. In the alternative method the information, since much of it is of a general nature, requires sifting out by a competent authority. The extracting of what is vital to the tanks, whether done at division headquarters or at the tank unit, must necessarily be a ground responsibility and a matter for ground organization.

From experience already gained in co-operating with tanks in their present role of close support to other arms, it is doubtful whether direct communication with the air is needed at all. The control of fighting tanks from the air by R/T is at present out of the question. Tanks are given definite tasks, often as the result of information received from the air, and their one concern is then to carry out that task and rally again when the task is completed. Therefore, provided the tank commander is in possession of all available information (including air information), before he actually issues his orders, the need for direct communication between tanks and the aeroplanes is not apparent. When the day comes of independent tank action in mass, however, aircraft may be called on to work direct with tank formations.

A pilot engaged solely on tank reconnaissance would transmit his messages to the R/T signal tanks of the unit concerned, the maximum number of tanks allowed to talk to the air being two. For this purpose the R/T sets in the air would be adjusted to work on the wave-length employed by the tank unit which is different to that normally employed

by close reconnaissance aircraft, and the R/T tender. The pilot would be informed by his Branch Intelligence Officer of the special information required by the tank commander, and he would naturally search for this in preference to obtaining a more general picture of what is happening in the area.

R/T communication between the air and the R/T signal tanks is similar in operation and procedure to that normally carried out with the R/T tender at division headquarters. The effective working ranges between the air and the R/T signal tanks is not so great as with the R/T tender.

When two Services are called on to communicate with each other, as in this case, it is only natural to expect a certain amount of reticence on both sides and sometimes a little misapprehension of the capabilities at the other end. Good liaison and personal contact between both parties, and practice when time and facilities permit, will make for that confidence which is so essential to success and allow each party to appreciate the limitations imposed on the other.

### Communication with Artillery Units.

As in communication with other army formations in mobile warfare, successful working between the air and artillery units will depend on the ability of artillery commanders to receive information from the air at all times during flying hours both when guns are in action and when on the move. In the late war the wireless receivers issued to batteries were capable of receiving from the air only when a thirty foot mast was erected and, consequently, batteries only received from the air when in action. The conditions prevailing then did not, normally, call for the reception of targets from the air when batteries were moving. In mobile warfare conditions, it will probably become essential that artillery formations should be capable of receiving from the air when on the move.

Artillery units unable to receive on the move and when stationary in positions waiting to go into action will necessarily be deprived of information regarding favourable targets sent from the air. Even when batteries are in action, their positions are not likely to be known accurately or for any length of time to pilots engaged on artillery reconnaissance and with the limited signal arrangements available even in a division, the reception of these targets by the C.R.A. at division headquarters is no guarantee that they will be engaged. Fleeting opportunity targets are favourable only for a comparatively short time and, to insure their being brought to the notice of battery commanders for consideration, it is essential that the receiving set should be in action as much as possible during flying hours.

The advance made in the design of wireless receiving sets since the Great War has permitted the design of a receiver suitable for reception by artillery units, thus giving much greater scope for the reception of signals from the air.

The reception of information from artillery reconnaissance machines by batteries when on the move presents no serious technical difficulties and, with the existing receiving apparatus mounted on any of the vehicles normally employed by a battery, good results can be obtained. In mechanized Field Brigades and in artillery units with guns above the calibre of field guns, M.T. vehicles, such as the thirty hundredweight light Crossley lorry, would, presumably, be available, and in these vehicles semi-permanent aerials can be easily and quickly erected which give good signals from the air up to the ranges required by the units concerned. The vehicle and its normal function are in no way impaired. The receiver may be operated for example, in a ration lorry and in any case, transport facilities must be provided for the R.A.F. operator.

With horse-drawn batteries, the greatest difficulty is experienced in finding the vehicle to accommodate the receiving apparatus and still allow it to carry out its normal functions. To fix the apparatus on a gun limber and allow the operator to ride with it will, in all probability, under peace conditions, disorganise the battery commander's arrangements for horses and the transport of his personnel, besides which the limber is useless as such when the battery comes into action. The question of receiving on the move with horse-drawn batteries will no doubt receive further attention during future training. Technically, reception on the move with a horse-drawn vehicle is more difficult than on a M.T. vehicle because of the varying electrical conditions caused by the friction of the metal parts of the harness and the metal rims of the wheels passing over varying surfaces. The operator is also subjected to an unusual amount of discomfort which makes the correct adjustment of the receiver more difficult.

The whole question, of course, needs further trial and experiment, but sufficient experience has already been gained to indicate that it is upon the foregoing lines that the development of W/T reception with artillery units must and can progress. To summarize, generally, it can be said that the two most important principles governing intercommunication between the air and ground, in the type of war for which we are training, are mobility and simplicity and it is with these principles always in view that trials and experiments in the Army and in the R.A.F. squadrons working with the Army are being conducted to-day.

# THE ORIGIN OF THE WEST INDIA REGIMENT

By Colonel G. M. Orr, C.B.E., D.S.O., p.s.c., Indian Army (Retired).

*" H.M. the King has approved, with regret, of the disbandment of the Corps of the West India Regiment."*—Army Notes, Nov., 1926.

THE operations that took place in the West Indies from 1793 to 1795 had shown the necessity of augmenting, if not of replacing, British units, destined to garrison the captured islands, by black troops who could withstand the climate. Nevertheless, it needed the great negro rising of 1795 to bring about the creation of the West India Regiment. That revolt, although the direct result of French revolutionary propaganda, was the indirect consequence of the policy pursued by Pitt in the West Indies since the beginning of the war with Revolutionary France, and indeed before the declaration of war. The story is fully told in Sir John Fortescue's " History of the British Army," a work which has been freely quoted in the following pages. It is, indeed, a story full of tragedy, but one which should prove of the deepest interest not only to all military officers, but also to every statesman who may aspire to direct the destinies of the British Empire. For this reason the events in the West Indies during those years deserve close study even at the present day.

In April, 1792, a decree had been passed in Paris giving the full rights of citizenship to the coloured people in French possessions. Already the French planters of the West Indian Islands had been sufficiently alarmed by the spread of the doctrine of the Rights of Man among all native peoples, which for the most part provided their slave labour. Of the chief French islands, Martinique, Guadeloupe and St. Lucia to windward, and San Domingo[1] to leeward were the most deeply affected. San Domingo was not only the largest but the nearest to our island of Jamaica. In September, 1791, the French planters had already asked the Governor of Jamaica for assistance against their negroes, and in the same year an appeal was unsuccessfully made to the British Government by the planters to take possession of the island in the name of King George. The appeal was repeated in 1792, just before the declaration of war, when it was favourably received by Dundas, who had just received the seals of the Home Office. In this position he was responsible for the Colonies, and therefore for colonial operations[2]. On

[1]Only the western half of San Domingo was French; under the name of Haiti, the remainder was Spanish.

[2]Later he became Secretary for War.

the 12th January, nearly a month before the declaration of war, he informed the Governor of Jamaica that in such an event—and war was then probable—it would certainly be part of the British plan to secure for the French West Indies the advantage of being subject to the British Crown.

The fear of the spread of insurrection from the French to the British possessions had already caused our troops in the West Indies to be increased to nineteen battalions. This increase meant that, when war came to be declared, there were only twenty-eight battalions, besides the Guards, for the defence of Great Britain and for calls from overseas over and above the garrisons in far away stations.

Pitt's war policy, apart from financial assistance on the Continent of Europe, was to use the small British Army on maritime expeditions against the ports and colonies of France under cover of our superior Navy. It is true he allowed a deviation from this policy—with eventual disastrous consequences—by committing a force to assist the Austrians in Flanders, thereby diminishing the strength of forces destined for operations further afield. The weakness of that policy lay in the division of the meagre forces of Great Britain between too many objectives. The most important objective in the eyes of Pitt and of Dundas was the capture of the French West Indian Islands.[1] Nevertheless the very severe censure passed by Fortescue on Pitt and Dundas for their conduct of the war in general, and in the West Indies in particular, is merited. The West Indies at that time were the wealthiest of the French colonies, so it seemed that their possession might indemnify England for considerable military expenditure. Dundas, however, entirely miscalculated the strength of the force required to capture them or the measures necessary to maintain such a force in a notoriously unhealthy climate. According to Fortescue " it would be necessary not only to take the islands but to hold them, and to hold them not only, as heretofore, against the climate, and against the fleet and armies of France, but against the entire negro population, which the Revolution had summoned to its aid. There was, as there still is, abundance of records of former attacks upon all those islands, showing that at the best of times each British battalion in the West Indies required to be renewed in its entirety every two years, and at the worst of times might be completely extinguished by a single hot season."

During April and May, 1793, Tobago, St. Pierre and Miquelon passed into our hands, but an attempt made on Martinique in June failed. In September, Dundas warned the British Commander at Barbados to be ready to receive an expeditionary force of fifteen more battalions. It was not, however, till the 26th November that General Grey sailed in company with Admiral Sir John Jervis, although only six of the promised

[1]The importance of the West Indies in those days is made clear by Dr. Holland Rose in his " Pitt and the Great War."

battalions were despatched. Having received instructions which were to select his own objects of attack in the Windward Islands and send reinforcements to San Domingo, Grey arrived at Barbados on 6th January, 1794.

He thereupon took the bold decision of striking his first blow at Martinique, the most formidable of the Windward Islands. On the 3rd February he sailed with nineteen ships of war and a force of 7,000 men. By 23rd March, Martinique had passed completely into our hands. He next turned his attention to St. Lucia which was successfully occupied by the 2nd April. Guadeloupe was added by the 24th April. The operations had been marked by a perfect understanding between the Admiral, Jervis, and the General, Grey, no less than by an unexampled harmony in the working of the two Services. "The whole campaign," says Fortescue, "is an extraordinary example of the power of a small and efficient army working in perfect harmony with a small and efficient squadron upon a fortified coast." It now fell to Grey to organize the civil government of the captured islands and to arrange for adequate garrisons. But the real enemy, sickness, began to gain ground in spite of Grey's careful attendance to the welfare of his men. However, when in May four battalions arrived from Ireland, he sent three of them to the assistance of San Domingo.

It is necessary to trace the events that led to this step. In September, 1793, General Williamson who had seven battalions at Jamaica, numbering under 3,000 men, had sent a force of 700 rifles to San Domingo. Things went by no means well with that undertaking, in spite of further reinforcements sent by Williamson. It was not until February, 1794, by which time, under direct orders from Dundas, another 500 men had gone from Jamaica, that the British could claim to be in undisturbed possession of both horns of the western bay of San Domingo. But, although the season was the healthiest of the year, the men had begun to fall sick. Williamson warned Dundas that a garrison of 6,000 men would be required for many years. In March, 1794, sickness increased ominously, troubles multiplied, and affairs became critical; then on the 19th May a reinforcement of 1,600 men arrived from Grey, who had by then brought his own operations to a close.

The advent of these 1,600 men under General Whyte at San Domingo permitted of operations against Port-au-Prince, the capital of French San Domingo, which was taken on 4th June. But the operations were now to be paralysed by the ravages of fever. At the end of June only 2,000 out of 3,700 were fit for duty. By the end of August 729 had died. The fast dwindling strength of the British units made it essential to augment their numbers in order to provide for local defence and for policing the conquered territory. Both Whyte, the General on the spot, and Williamson, to whom as C.-in-C. at Jamaica all matters of high policy had to be referred, agreed that the only solution was to raise and train native regiments. Unfortunately the system adopted was to allow

the French planters and emigrants from the nobility of France, who were in reality unprincipled adventurers, to raise their own corps. The dishonesty and lack of honour prevalent among them can only be believed after a close study of Sir John Fortescue's pages. Meanwhile, the British units dwindled yet further. By the end of 1794 the seven battalions left in the island could muster only 1,100 of all ranks for duty. And throughout the summer and autumn Dundas kept promising reinforcements which never came.

To windward Grey had not been left long in undisputed possession of the captured islands. In June, 1794, 1,500 French troops reached Guadeloupe and gained a footing. Nor was Grey able to evict them, while in December Guadeloupe once more passed into French hands. Unfortunately for the success of the British operations Grey and Jervis were driven to resign their commands. The cause of this calamity was the action of Dundas in cancelling certain orders regarding prize money, at the instance of a powerful clique of British West Indian merchants at home. During 1794 the mortality among Grey's troops had been terrible. Out of the officers who had sailed with him to Martinique, 170 had died of yellow fever, while only twenty-seven had been killed or died of wounds. Fortescue calculates the losses of the Army, Navy and transports during 1794 at 12,000 Englishmen buried.

With Grey's departure the command to windward devolved on General Vaughan. There stood at his disposal about 2,000 men fit for duty with whom he was to defend eleven different islands, a duty which, in Grey's considered opinion, required 11,000 men. The revolutionary party now used Guadeloupe as a base for fomenting insurrection, and disaffection began to spread to the other islands. Vaughan urged on Dundas the necessity of raising native regiments and, further, that if they could not be recruited locally, they should be imported from Africa. It was in the first week of March, 1795, that the storm broke. In Grenada there was a massacre of whites; in St. Vincent the Caribs began to devastate the colony; in St. Lucia the insurgents gained ground from the British troops. Grenada had to be temporarily abandoned; but in St. Vincent the negroes who were antagonistic to the Caribs were prepared to be recruited into regiments if permitted. At the end of March some of the promised reinforcements arrived, but instead of eleven battalions there were only five, and they consisted of nothing but raw and young recruits unfit for service in any climate. At the same time Dundas wrote positively refusing to permit the formation of native regiments. Vaughan, in reply, protested against the iniquity of sending troops of such low quality and, divining the influences at work behind the Minister's refusal to allow the raising of native regiments, protested against the Minister listening to the advice of " a set of self-interested merchants who will not give a small part to save the whole " rather than to that of the C.-in-C. on the spot. He also pointed out that the French would invade the islands and gain over the British negroes by the

promise of freedom. Although he did not venture to raise regiments in the face of Dundas' orders, he increased the strength of certain black levies in St. Lucia and Martinique to 800. On the 18th April, the entire British force in the Windward Islands was under 5,000 men. St. Lucia, where 800 out of 1,400 men were fit for duty, was evacuated on 18th June. In Grenada, which had been re-occupied by two of the newly arrived battalions, the mortality increased as the summer advanced; 250 men died in a single week in July, and effectives were reduced to 850. In St. Vincent things went well till July, when the French were reinforced, and the British lost ground. Reinforcements asked for from Martinique could not be spared because two-thirds of its garrison were in hospital and the death rate was seventy-five men a week. Although three battalions of some reinforcements which had arrived in September were sent, their quality was bad. By the beginning of 1796 the British were hemmed into a corner of the island. Of Dominica there is fortunately a different story to tell; there the loyalty of the slaves was proof against the French propaganda and the island was saved.

The year 1795 was one of disasters. But in June came Dundas's reply to Vaughan's insistent demands to raise native regiments. Grudging permission was given to raise two regiments, but under conditions certain to render the concession valueless. In July Vaughan died and was succeeded by General Irving, who set about trying to raise the regiments, but at once encountered the obstacle that the planters refused to part with their negroes. Nevertheless two regiments did begin to take shape; that which took the title of the 1st West India Regiment was formed under Colonel Malcolm by embodying the black "Rangers" who had already done good service under him. Malcolm, indeed, may be regarded as the "Father" of our African troops. The 2nd West India Regiment was raised in St. Vincent by the tact and energy of Colonel Myers. He was, however, forced to promise that the men should return to their masters when their services were no longer required. The unit fought its first action in St. Lucia on the 8th January, 1796.

It is necessary to turn once more to the events in San Domingo during 1795 and 1796. There, too, the same trouble arose over raising native regiments. General Williamson, like every other commander, saw the necessity of offering emancipation to the men at the close of their service, not only as a matter of justice but of expediency in order to outbid the French who had proclaimed universal liberty. Lack of troops made operations impossible, for death and sickness continued to take their toll. Thus five companies newly arrived from England in April were in hospital to a man within a month. On the 1st June there were only 1,300 fit out of 3,000. Then there occurred the revolt of the Maroons in Jamaica, which took six months to quell and necessitated keeping back 1,000 men destined for San Domingo because of the paucity of troops and of the refusal of the Jamaica Assembly to sanction the creation of native regiments. Out of seven battalions originally landed

in San Domingo only 500 men were available for duty. In spite of reinforcements the total fit for duty in October was still only 1,300. At the end of November, Dundas wrote to say that 16,000 troops were arriving at once, that native regiments were to be raised, but that the negroes were not to be promised emancipation. Forbes, who was now in command, declined to obey these orders, arguing as Williamson had done, that " since the French Convention had decreed emancipation, it was hopeless to expect to keep negro soldiers from deserting unless the British promised them freedom likewise." By February, 1796, Dundas' promised 16,000 had dwindled to 4,500 of whom only 1,600 actually arrived. This was fatal to the scheme Forbes had initiated for raising native corps. In expectation of British reinforcements numbers of negroes and mulattoes had come to terms with the British commander, but when they saw that only a handful of troops arrived, negotiations fell through. By May, 1796, reinforcements brought the total strength up to 5,000 fit out of 7,500 present. In June seven more battalions arrived, but were at once decimated by yellow fever. On the 1st July there were little more than 6,000 fit out of 8,500 present. The death roll in May and June alone had been 1,300. In the fleet the mortality was even greater than in the army. Meanwhile the French had received 2,000 more troops. And so the dismal tale continues; sickness decimated the troops and paralysed operations. Then Spain was added to our enemies and troops had actually to be transferred from San Domingo to the Bahamas and Barbados, so that in February, 1797, only 1,400 sickly men were left in San Domingo.

There was another reason for the neglect of San Domingo. Back in 1795 the British Cabinet had decided to send an expedition in overwhelming strength to rectify matters in the Windward Islands. This force was to consist of 18,000 men organized in six brigades under Sir Ralph Abercrombie. Culpable negligence attended the equipment of the force and, for other reasons given at length by Fortescue, the expedition did not sail till the end of February, 1796. Abercrombie reached Barbados but with only 6,000 of his troops: among his brigadiers was the future General Sir John Moore. By this time Dundas had sanctioned the raising of six native regiments, but little progress had been made. Abercrombie at once made plans to recover St. Lucia. In the operations which took place the 2nd West India Regiment served under Brigadier John Moore. It was also in the same operations that Malcolm, founder of the 1st West India Regiment, was most unfortunately killed. By the end of May St. Lucia had been recaptured, the casualties amounting to 39 officers and 520 men. Moore was left to deal with the insurgents who had taken to the jungle, and Abercrombie passed on to deal with St. Vincent and Grenada. In both islands the strength of the insurrections was quelled during June, though it proved to be far from finally settled. Abercrombie considered that Guadeloupe was beyond the power of his force to tackle and in August, broken in health, he returned to England, leaving General Graham in command.

Again frightful mortality raged among the troops. By the 1st June Moore had lost 1,500 dead out of 4,000. Between 1st April and 1st October 2,500 men had died. Fortescue's comments are: "So ended the third campaign in the West Indies; and it was now plain to every thinking man—it was even beginning to dawn upon Ministers—that so costly a warfare could not be prolonged. The number of men buried annually by the army and fleet in the West Indies during the three years 1794, 1795 and 1796 cannot be reckoned at a lower figure than from ten to twelve thousand, or say, thirty-five thousand men in all, of which twenty-five thousand may be reckoned as belonging to the Army. Official returns give the number of soldiers killed or dead in the service in all quarters during the year 1794 at eighteen thousand six hundred; and of soldiers discharged unfit for further service from wounds or other infirmities during 1795 and 1796 at forty thousand six hundred. Adding to these figures eighteen thousand dead during the years 1795 and 1796, and say three thousand dead and discharged during 1793, both of which computations are extremely moderate, we reach the total of eighty thousand soldiers lost to the Service, including forty thousand actually dead, the latter numbers exceeding the total losses of Wellington's army from death, discharges, desertion and all causes from the beginning to the end of the Peninsular War. Yet with all this miserable waste and squandering of life France was little the worse, and England even less the better."

In November, 1796, Abercrombie again set sail from England, with fresh instructions to make the capture of Trinidad his first objective, for England was now at war with Spain. Arriving in January, 1797, he found the troops to windward reduced beyond all calculation by the ravages of disease. In February, Trinidad capitulated. An attempt in April to capture Porto Rico failed and in June Abercrombie was ordered to stand strictly on the defensive and to superintend the raising of native regiments, which were now to be increased to eight. Like his predecessors he failed to overcome the opposition of the Assemblies of the Islands, so he again returned to England in August, leaving General Cuyler to carry out Dundas' final instructions. These were to buy negroes from Africa, but to take every precaution to conceal the fact that Government was the purchaser. By July, 1798, the 8th West India Regiment had been formed and was able to take over the duties of the British troops in Dominica and so save hundreds of British lives. The planters, however, still continued to show their hatred for native troops. For instance, they claimed local jurisdiction over them on the ground that they were slaves. It is to Dundas' credit that in this case he supported the commander on the spot and ordered all recruits to be enfranchised. As Fortescue pithily remarks: "Four years of bitter experience had at last taught Dundas the lesson which Grey and Williamson in 1794 had urged on him in vain; and to do him justice he had learnt it thoroughly."

From the beginning of 1798 the islands to windward were at peace. By the middle of 1799 the West India Regiments had increased to twelve. They and six battalions of the 60th Regiment practically formed the garrison of the West Indies.

Meanwhile the Government had decided to initiate a complete change of policy in San Domingo. Although the most valuable parts of the island were to be preserved, expenditure was to be reduced, and no more reinforcements to be sent. However interesting this story may be, it must suffice to say that one Colonel Thomas Maitland, by a sagacious agreement with the coloured leaders of the insurgents arranged eventually for the evacuation of the island. By this agreement he left Toussaint l'Ouverture, the famous negro leader, practically king of the island, but as a friend of Great Britain and as a future thorn in the side of France. In Fortescue's words : " Thus, by the supreme strength and courage of a single subordinate officer, England was plucked from the awful morass of confusion, extravagance, death and disaster into which she had been plunged by the thoughtless incapacity of Pitt and Dundas. The amount of blood and treasure drained from England by that miserable island of San Domingo will never, I think, be truly known." His final comments are : " After long and careful thought and study I have come to the conclusion that the West Indian campaigns, both to windward and leeward, which were the essence of Pitt's military policy, cost England in Army and Navy little fewer than one hundred thousand men, about one half of them dead, the remainder permanently unfitted for service. And in return for this frightful cost of life, there could be shown only the British Islands of Grenada and St. Vincent utterly devastated and ruined, and the French islands of Tobago, intact but of small value, of Martinique, much damaged and with difficulty held, and of St. Lucia, so wasted as to be no more than a naval station. For this England's soldiers had been sacrificed, her treasure squandered, her influence in Europe weakened, her arm for six fateful years fettered, numbed and paralysed "

# IMPORTED OIL OR NATIVE COAL?

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Royal Engineers.

THE advantages of oil fuel are so well known that some apology may be necessary for again enunciating them, but, briefly, it may be said that oil is replacing coal as a fuel, firstly, because it is a fluid and, secondly, because of its higher calorific value for bulk. These two properties re-act in a multitude of ways which, so far as they affect the armed forces of the Empire, may be set down as follows :—

(1) Oil increases the mobility of the naval and military forces ;

(2) It makes possible the Air Force ;

(3) It is the fuel of a large proportion of the transport and motive power of the industrial army behind the Services in a war of maximum national effort.

In countries, such as the United States of America, where oil fields are abundant, both in the country itself and in neighbouring countries, the development of the use of this fuel has naturally been more rapid and more complete than in Great Britain, where oil has yet to be obtained in commercially workable quantities. In the case of Great Britain, too, it must be remembered that the use of oil immediately introduces a limitation to our former independence as regards fuel. It is in this connection that it is profitable to consider, for a moment, whether the present almost undignified stampede in favour of oil fuel is really for the ultimate benefit of the Empire, especially in view of the fact that, to-day, the Empire produces little more than 2 per cent. of the total world production, and oil has yet to be discovered in greater quantity within its territories.

Admiral Sir E. J. W. Slade[1] has shown that the ever-increasing home consumption of oil found in the American continent has made it practically certain that we, as an Empire, may eventually have to rely for our supplies of well oil in both peace and war on sources situated in countries with a small home consumption. Already we have turned to

[1] " Oil Supplies in War," by Admiral Sir E. J. W. Slade, K.C.I.E., K.C.V.O. R.U.S.I. JOURNAL, February, 1926.

foreign states, particularly Persia and the Dutch East Indies, for a large percentage of our fighting fuel..

The peculiar advantage held until recently by Great Britain, consequent on the possession of a large percentage of coaling stations along the main sea routes, is to-day considerably reduced. In many cases the utility of coal as an instrument of bargaining with neutrals and blockade against enemies is gone, but it must not be forgotten that many other countries in Europe, Asia and Africa use oil with the same limitation as we do ourselves.

It was recently remarked[1]—" since we depend on the sufferance of other countries, we must store." Obviously, an Empire, which possesses no oil supplies within its borders, must store to a greater extent than states more fortunately placed. One inherent disadvantage of storing oil fuel, however, has been very vividly demonstrated by the recent fire at San Luis Obispo in California, when two oil storage reservoirs of the Union Oil Company were struck and set on fire by lightning, causing a loss of 6,000,000 barrels of oil, in the course of a few hours, valued at £3,000,000. This goes to show that unless oil is stored in costly low-level, bomb-proof tanks, the possibility of total loss of the reserve and damage to neighbouring establishments as a result of air or artillery attack is very great.

Command of the seas has ever been essential to the Empire and particularly to Great Britain, its main man-power and industrial base. But command of the seas is a question of degree. As was seen in the late war, it is possible to retain general command of the seas and still suffer considerable embarrassment. In future, oil reserves will present a new and worthier target for the guns of submarines and lone commerce raiders, as well as being natural objectives for the bombs of enemy aircraft.

As things are constituted to-day, the Empire has to rely for the fuel supplies of its fighting Services on financial control over, and the goodwill of, foreign states. In war, the last resort will be the coercion of those foreign states, since their oil is so vital. It has been suggested that the British mandate from the League of Nations for Iraq is another factor tending to increase our political entanglements. It is not an overstatement of the case to say that apart from our moral obligation to retain the mandate accepted for this country, its occupation by our forces is essential for the security of the head of the Persian Gulf and the safety of our Persian oilfields. To this extent, then, our military and air force responsibilities are increased.

Apart from the aspect of oil as a further source of entanglement, it re-acts at the present moment to increase our naval responsibilities. From the point of view of the shortest line of supply from the Persian oilfields to the heart of the Empire, the Mediterranean route becomes

[1] Sir George Aston : Discussion on " Oil Supplies in War."

increasingly vital. It emerges then that not only have our naval responsibilities on the Mediterranean route been added to, but all our Empire sea routes, on which are stored oil reserves for our fleets, armies. and air forces, require a higher degree of naval policing than heretofore. The Washington Conference laid no restrictions on submarines, and the recent war showed their possibilities as commerce raiders. The Mediterranean route is peculiarly susceptible, especially at its narrow western end, to submarine tactics, while failure of our oil supplies will mean that the mobility of all our fighting forces will be greatly restricted.

It can be said broadly, then, that since we have reduced our independence as regards another vital necessity for Imperial security by reliance on fuel obtainable only on foreign sufferance, the possibilities for international misunderstanding have been increased and we have added to ourselves not only a further cause for war, but a considerable additional handicap, should war be forced upon us. It will be noted, too, that this disadvantage is not inherent to oil itself as a fuel but is disadvantageous to the Empire, simply because the fuel which is vital is no longer to be found within its realm.

As regards the Army and the Air Force, there is no alternative to oil fuel for the type of engine these Services employ. The Navy, as regards super-marine ships, has not yet introduced the internal combustion engine, but burns oil under boilers. With the exception of submarines, therefore the Navy could, theoretically, in an emergency, return to the use of coal fuel. Practically, of course, this is not the case owing to the impossibility of adapting oil tanks to the storage of coal, to mention only one reason.

### Oil Resources *versus* Coal Resources.

Yet a further cause for thought and consideration arises when the question of the resources of the present known well-oil supplies is examined. The extent of the well-oil resources available in the world has not yet been estimated with any degree of accuracy. Although there are large areas known to be petroliferous, they have yet to be proved, whilst improved methods of extraction will largely increase the supplies to be obtained from known and proved oilfields. For every gallon of oil raised, it is estimated that no less than four gallons remain in the ground, to be raised by more expensive, and so far, scarcely proven, methods of extraction, such as flooding with water, air and gas pressure or mining. Oil extraction at present depends mainly on natural gas pressure to expel it. In America, laxity of regulations, permitting indiscriminate drilling with consequent reduction in gas pressure, are estimated to account for a loss of 20 per cent. of the available oil.

However, some idea of the degree of comparative stability of well-oil and coal resources may be gathered from the following estimates. The United States now produces 69 per cent. of the world's present

output of oil, but this supply is obtained from only 4 per cent. of the existing wells, most of which are only a year old. As lately as September, 1926, the U.S. Federal Oil Conservation Board estimated the reserves of oil in *proved* areas in the United States as only some six years' supply.

The report of the Royal Commission on the Coal Industry (1925)[1] contains most illuminating data on the utilization and resources of coal, and shows that the British coalfields are estimated, on the most conservative basis, to provide coal for a further 1,000 years at the present rate of consumption.

The figures given for well-oil resources are of a very indefinite character and estimates made by various bodies who have investigated the matter seldom agree within fifty years. Nevertheless, it is safe to make a definite deduction from the order of magnitude of the two figures—six years and a thousand years—as to the relative stability of the well-oil and coal resources, using figures for two countries respectively, representative of good oil and good coal resources.

## More Efficient Utilization of Coal.

In view of the foregoing facts, statistics, estimates and arguments, no excuse is offered for the assertion that it is of prime importance that the British Empire, and Great Britain in particular, should examine without delay the means by which coal, the native source of power, may be utilized to provide fuel for her martial and industrial armies. This is necessary not only to reduce our responsibilities, but in order to reassert our independence. There are three forms in which coal or its products can be utilized with greater efficiency and facility than the natural state in which it is most usually handled. These are :—

(*a*) As a powder ;
(*b*) As a gas ;
(*c*) As oil.

The requirements of a fuel for the use of the fighting Services are mainly :—

(1) High calorific value for bulk ;
(2) Ease of handling and transport ;
(3) Safety from pre-ignition.

How do the three forms in which coal or its products can be utilized fulfil these requirements ?

The use of pulverised coal[2] has been developed in the United States of America and there can be little doubt that in this form coal can be burnt with greatly increased all-round efficiency. Coal dust can be

[1] Cmd. 2600.

[2] See "Preparation and Utilization of Pulverised Coal," by Engineer-Commander J. J. C. Brand, R.A.N. Paper 24, Institute of Engineers (Sydney Division), Australia.

conveyed satisfactorily through pipes, experiment showing that with a pressure of 40 lbs. per square inch four tons of dust can be forced through 500 feet of 4-inch diameter iron pipe in five minutes. Using modern methods and plant the danger of explosion or spontaneous combustion is negligible. The calorific value of coal dust may vary from 12,500 to 13,500 B.T.U. per lb. compared with 18,000 to 19,000 B.T.U. per lb. for oil fuel. Powdered coal dust stows roughly at 260 gallons per ton as against 220 gallons per ton of oil, which gives a ship a radius of action, using coal dust, only two-thirds of that obtainable with oil fuel. From this, it is clear that pulverised coal is not likely to oust oil fuel as far as the Navy is concerned.

Pulverised semi-coke, a product of low temperature carbonization (referred to later) may also be utilized, a recent test giving very favourable results both from the point of view of bulk and calorific value, compared with coal, but it is not a serious competitor with oil.

The gas derived from coal may be either produced as it is required, or bottled at high pressure to facilitate handling. It is clear that considerable additional plant is required to produce the gas, and in spite of an interesting suggestion by Sir Holberry Mensforth in *The Times* of 6th April, 1926, it is hard to see that a producer and gas engine will ever oust oil fuel for small units such as those required for mechanical transport vehicles or Service aeroplanes. Bottled gas, owing to weight and danger of explosion, is not likely to recommend itself to any one of the fighting Services.

Oil, as well as gas, is a product of the carbonization of coal. The process of extraction falls into the two categories of high and low temperature carbonization. Some 37,000,000 tons of coal are treated annually by the coke oven and gas industries of Great Britain in the high temperature process mainly for the purpose of producing metallurgical coke, and town gas of a high calorific value, with benzole, tar and sulphate of ammonia as by-products.

The low temperature process which operates at temperatures in the region of 450° C., as compared with 1,000° C. in the high temperature process, can produce, in addition to gas and semi-coke of a kind, the primary oils from which not only lubricating oils and fuel oils but also petrol can be subsequently obtained by refinement. By suitably varying the retort temperatures, the calorific values of the gas and semi-coke resulting can be altered, but providing the retort temperature is not so high as to cause decomposition, then the true primary oils which are distilled off are found on refinement not only to mix with well-oils of a similar type but to compare very favourably with them as regards their co-efficient of friction, in the case of lubricating oils, and as regards calorific value, in the case of fuel oils.

It has been established that the different kinds of bituminous coal found in this country, whilst giving different yields, can always, assuming a suitable process is employed, give a uniform crude oil, with the resulting

far-reaching effect when the question of refinement comes to be considered. Experimental tests show a possible yield of crude oil from a ton of bituminous coal varying from 17 to 20 gallons. Assuming a yield of 17.5 gallons per ton, this has been refined down to 1.8 gallons of motor spirit, 1.9 gallons of burning oil, and 2.2 gallons of lubricating oil—the remainder being recovered in the form of cresols, paraffin wax, pyridine and pitch coke.

Assuming that such a yield is commercially possible, it can be shown that to supply the present demand for motor spirit in this country, some 303,000,000 tons of coal would have to be carbonized annually. Now the coal raised in 1924, available for home use, amounted only to 180,000,000 tons. From this, some 37,000,000 tons, used by the coke oven and gas industries must be deducted, leaving an additional 160,000,000 tons of coal per annum required to be raised in order to supply this demand for motor spirit. It is interesting to note in passing that this would afford employment for an additional 740,000 men, assuming an output of 217 tons of coal per man per annum as in 1925.

There exists another process, which by carbonizing coal in an atmosphere of hydrogen under pressure produces a considerably greater quantity of petrol per ton of coal than the figure given above. The process does not, however, give any lubricating oils, and is still only a laboratory process. The main difficulty attending all these processes is temperature regulation, and many fail from an oil producing point of view owing to the application of excessive temperatures, causing decomposition of the primary oils.

Up to date, however, it is not possible to point to any plant operating with success on a commercial scale. The Royal Commission on Coal[1] says :—

> "No plant of a type that holds out a prospect of a sufficiently low working cost has yet been run constantly for more than a few weeks without difficulties arising. . . . We recommend . . . further investigation of the process on a commercial scale. . . . If it be found possible to devise processes . . . the nation would obtain from its own soil a considerable supply of oil. . . . It would render this country to a large extent independent of imported oil supplies for the Navy, Army and Air Force."

It is clear that we must have oil, and it is equally true to say that true low temperature carbonization offers the greatest hope of success on a commercial basis of all the many processes under trial. But its success is solely dependent on research and research means money. It is all the more lamentable, therefore, to note that the net annual expenditure on fuel research from public funds in Great Britain for the last five years has averaged only £52,800[1], and this sum is distributed

[1] Page 38, Report of Royal Commission on Coal Industry: Cmd. 2600.

over many problems in addition to the question of the carbonization of coal.

## Financial Considerations and a Naval Responsibility

Clearly, more money is an urgent necessity, but, we are faced by the need for financial economy. When the financial aspect of vital Imperial problems such as this is under consideration, it is well to read again Lord Milner's *Economic Notebook* :—

"London, July 25, 1923.

". . . . there was, of course, much in the real wastefulness of the war period and war atmosphere which was purely mischievous, and the constant revelation of cases of genuine extravagance lends fuel to the fire of the anti-waste agitation and strengthens the tendency to confound true economy—the repression of such extravagance—with the false economy which consists in starving necessary public services or cutting off reproductive expenditure. . . . We greatly under-estimate the possibilities of economic development within our own borders :

Electricity ;
Wireless ;
Aviation ;
Carbonization."

In this case, the onus for the provision of funds for research is clearly upon the fighting Forces. They are all three vitally involved, and in the absence of the co-ordinating authority—the Minister of Defence of our dreams—reliance must be placed on the principle which governs a combined operation—namely, that the Service predominantly interested should take the lead. That Service, under present conditions, is the Navy.

# THE ASPIRATIONS OF ITALY IN THE MEDITERRANEAN

By COMMENDATORE LUIGI VILLARI, M.C., Royal Italian Army.

On Wednesday, 3rd November, 1926, at 3 p.m.

COLONEL THE RIGHT HON. THE LORD AMPTHILL, G.C.S.I., G.C.I.E., in the Chair.

THE CHAIRMAN welcomed Commendatore Villari on behalf of the Royal United Service Institution and introduced him to the audience as one who could justly address them with the highest authority at his back. He also drew attention to the fact that Commendatore Villari had been attached to the H.Q. of the Salonika Force under Sir George Milne in Macedonia during the Great War, and had been awarded the British Military Cross.

## LECTURE.

THE foreign policy of Italy has been the subject of much controversy in the press of Great Britain, while public attention has been called to Italian military, naval and air armaments, which are often described as constituting a menace to the peace of the world. There has been a good deal of misunderstanding on the matter, often although not always, the result of ignorance of the real facts of the case. It is therefore, I think, desirable to try to explain the international situation of Italy somewhat more accurately than is generally done, and to indicate the objectives of her present military, naval and air policy, which are the outcome of that situation.

I shall begin by saying a few words about the conditions of Italy's frontiers before and since the war.

Before the war, Italy, owing to successive difficulties with France, had become a member of the Triple Alliance, and this fact in itself involved further possibilities of friction with that Power. It was consequently necessary to provide, in the first place, for the defence of the western frontier. The Alpine barrier offered generally satisfactory defence conditions on that side, but as Italy has had to bear in mind

the possibility of an attempted invasion from the West, she felt it essential to fortify the passes and orientate her military policy in view of that danger.

On the other hand, although Austria was Italy's ally in the *Triplice*, Italo-Austrian relations were notoriously unsatisfactory on account of the existence of *Italia irredenta*, that is of Italian territories ruled by Austria-Hungary, of the persecution by that Government of its Italian-speaking subjects, and last, but not least, of political and commercial rivalry between the two powers in the Balkans and elsewhere. The frontier with Austria, as delimited in 1866, was open both to the north and to the east, and wholly unfavourable to Italy. On the north, the Alpine watershed was well within Austrian territory, and the Trentino penetrated like a wedge, bristling with fortresses, into the very heart of the Lombard and Venetian plain, with some dozen good military roads spreading out fanwise in all directions, menacing the nerve-centres and the rich agricultural and industrial areas of North-Eastern Italy.

The war has radically changed these conditions on both frontiers. The western frontier remains unaltered, but relations with France, Italy's ally in the Great War, have so greatly improved that there is now little fear of aggression from that quarter. To the north-east the Trentino and the Alto Adige are now Italian, and the new frontier follows the watershed from the Rezia Pass to the Brenner and the Zillerthal Alps, and thence descends to the Val Pusteria, where it rejoins the old frontier along the crest of the Carnic Alps. It is admirably suited for defensive purposes, offering no temptation for aggression to either side, and is crossed by two lines of railway and only three carriage roads. Italy's neighbour north of that frontier, German Austria, is no longer a formidable power, and is indeed quite incapable of an aggressive military policy. Should the *Anschluss*, that is the union of Germany and Austria, ever materialize and Austria thus be absorbed into the German Empire, the situation would, of course, to some extent be altered, but while there seems little likelihood for the present of such an eventuality, the frontier would remain equally good, even in that contingency.[1]

On the East, Italy now borders on Yugoslavia. For several years after the Armistice relations with that country were somewhat strained, owing to disputes over the frontier, which was yet to be established. Yugoslavia claimed certain districts assigned to Italy by the Treaty of London, while Italy claimed Fiume. Now, however, the frontier has been definitely delimited by mutual agreement and, like the Brenner frontier, it follows the crest of the watershed (except on the extreme East, where the line encircles Fiume, leaving the mountains behind that town to Yugoslavia); it is, therefore, strategically satis-

[1]Note. On 29th December, 1926, a treaty of friendship and arbitration was concluded between Italy and Germany.

factory. Political differences with Yugoslavia have been adjusted, and there are no outstanding points of disagreement of serious importance between the two countries. From a naval point of view Italy is in a less advantageous position than from a purely military point of view, as I shall subsequently point out.

There remains the Ticino frontier with Switzerland. This frontier is open, as the Alpine crest lies considerably to the north of it. But there are no political differences between the two countries, and recently an Italo-Swiss arbitration treaty has been concluded, which is probably the most complete of its kind in existence. There has indeed never been any fear of hostile operations on that frontier, except during the Great War, when at a certain moment it seemed as though Germany intended to violate Swiss neutrality in order to attack France or Italy. Italy, in consequence took precautionary measures and fortified the area of the North Italian Lakes. But once the war was ended these defences were abandoned.

The strategic defensive position of Italy is consequently very materially improved as compared with what it was before the war. It is no longer a cause of constant anxiety as it was in the past.

Home defence, however, does not constitute the whole of the problem. There are, in the first place, the African colonies and the Ægean Islands to be provided for. The African colonies—Erythræa, Somaliland, Tripolitania and Cyrenaica—are defended by small forces, largely native troops officered by Italians, stiffened, in the case of the two North African possessions, by a few Erythræan and white units. Conditions in all these colonies are now quite peaceful, save for occasional trouble with rebel tribes in Cyrenaica, and even here the situation is considerably improved since the agreement with Egypt, whereby the Jarabub oasis was assigned to Italy, will now render it much easier to prevent the contraband of arms across the Eastern border. Nevertheless the colonies can be defended by these small forces only against local disturbances. In the event of more serious trouble—war with a foreign power or a general rising—metropolitan forces would be required.

The Ægean Islands—Rhodes and the Dodecannese—were occupied by Italy during the Italo-Turkish war of 1911-12. By the terms of the peace concluded at Lausanne in October, 1912, it was agreed that they would remain in Italian possession pending the carrying out by Turkey of the various clauses of the Peace Treaty. At the time of Italy's intervention in the Great War these conditions had not been fulfilled by Turkey, notably that of abstaining from assisting and encouraging the Arab rebels in North Africa. Italian intervention and the declaration of war against Turkey caused the provisions concerning the eventual restitution of the islands to that power to lapse. After the war Greece claimed them on the plea of nationality, and in fact an agreement was concluded whereby Italy undertook to hand over the smaller islands to Greece immediately and Rhodes at a later period, under certain condi-

tions. But the general settlement of the Anatolian question, of which this undertaking formed part, not having been carried out, the agreement lapsed. The islands are now definitely Italian possessions.

Whereas most of the smaller islands are of no particular importance, Rhodes has a historic and commercial interest for Italy. Apart from its association with the history of Catholicism and with the Knights of Rhodes, whose descendants, the Knights of Malta, have their headquarters in Italy, Rhodes is an important commercial emporium for trade with a large part of the Near East. It is indeed the only port provided with adequate warehousing accommodation between Smyrna and Alexandretta, and with the improvements now undertaken and the establishment of rapid steamship services with Italy, it should prove a useful distributing centre for Italian trade throughout the Levant. From a naval and military point of view the islands are, as we shall see, of more limited value, but not altogether useless. In any case, the possession of the islands involves certain necessities of defence.

Another feature of the Italian situation which is by no means without importance, in connection with her defensive policy, is emigration. The number of Italians residing in the Italian colonies is small, and although it is growing fairly rapidly as regards Tripolitania and Cyrenaica, it only represents an inconsiderable proportion of the Italians living out of Italy. Emigration has for many decades been a vital element of Italian economic and social policy and has consequently affected her foreign relations. The population has increased very rapidly, more rapidly than the means of subsistence. In 1861, when the kingdom was created it amounted to 25,000,000 ; fifty years later is was 35,000,000, and to-day it numbers about 40,000,000. But a large part of the superabundant population during the last decades of the nineteenth and the first years of the twentieth century emigrated to foreign lands where labour was scarcer and natural resources needed development, and where, consequently, wages were higher. The movement which in the seventies amounted to some tens of thousands yearly, had risen to an average of 670,000 in the last five years before the war ; and in 1913 was well over 800,000. A certain proportion of these migrants ended by returning home and settling definitely in Italy, but of those who emigrated to overseas countries about two-thirds remained definitely abroad. The total Italian population residing in foreign countries is estimated to-day at about 9,000,000, without counting those who have assumed foreign nationality.

The war, of course, suspended emigration, but after the Armistice the movement recommenced, and rose to 500,000 or 600,000 in 1920-21. The restrictive measures enacted by the United States and the diminished absorbing capacity of certain other countries, notably Germany, Switzerland, the Argentine and Brazil, kept Italian emigration within smaller limits than would otherwise have been the case. France alone, owing to certain post-war conditions, attracts more Italians than before

the war. But the total number of Italian emigrants remained below the pre-war figures. During the last few years the rapid development of agriculture and industry in Italy herself absorbed more and more of the increase of population, so that, while emigration has greatly decreased and continues to decrease, unemployment has reached almost vanishing point.

Nevertheless the population problem remains important from two points of view. On the one hand, there is the fact of the yearly increase of 470,000, and on the other, the existence of numerous Italian settlements in foreign countries. If the economic development of Italy at the present time can absorb the surplus population in spite of the reduction of emigration, it does not follow that this state of things can continue indefinitely. A slump in the trade of the world, or other causes may again produce unemployment and once more render the situation critical, and Italy would then be forced to seek other outlets for peaceful penetration by means of labour, her great article of export. I have also alluded to the problem caused by the existence of large masses of Italians abroad. The many millions of Italians scattered all over the world, especially in France, Switzerland, Tunisia, Egypt, Turkey, the United States, the Argentine, Brazil—not to mention the smaller Italian communities existing in almost every other foreign country—constitute a constant source of anxiety to the Italian Government and to Italian public opinion. We do not want to see those communities, which comprise many extremely useful elements, completely denationalized and absorbed by the peoples among whom they reside ; we should prefer that they retain their Italian character, language, traditions and sentiments as long as possible, even if they eventually assume foreign nationality. In the meanwhile it is Italy's desire that they should keep as closely as possible in touch with the mother country. To secure this end, we must be in a position to protect their interests. Italy must, therefore, command respect by means of her power and by the progress which she achieves in every field. The more powerful and prosperous she is, the more will her citizens abroad be respected and the more importance will they attach to their connection with the old country. It is not necessary that this power should be put to the test, but it must be there, because the mere fact that it exists will in the immense majority of cases render its manifestations unnecessary. Frequent visits of the Italian fleet to foreign ports, the knowledge that the Italian Army is efficient—a knowledge which many Italians residing abroad have acquired from personal experience while performing their military service in Italy—are essential to Italian prestige. The Italian victory in the Great War and the fact that under the present régime the fighting Services are neither despised nor neglected have also done much to strengthen the position of Italians in foreign countries.

But with the new spirit by which Italy is inspired to-day public opinion would no longer be satisfied with a revival of the old conditions whereby hundreds of thousands of Italians migrated every year to

foreign countries to work chiefly for the benefit of those countries and of foreign employers and for the development of foreign resources. The money brought back or sent home by emigrants, useful as it has been, is not enough to set against the disadvantages involved by the loss of a carefully selected mass of the best and healthiest workers, the annual return of many scores of thousands of sick and maimed men incapable of working, and the too great economic dependence of Italy on the good will of other countries.

When the Great War broke out, although Italy was still neutral, there were hundreds of thousands of Italian workers in the belligerent countries, many of them actually in war zones, such as the Meurthe-et-Moselle and Lorraine mining areas of France and Germany, while others were living in countries, which, although neutral, might at any moment become belligerents and, in any case, were unable or unwilling in such times of danger to employ large masses of foreign workers. This state of affairs constituted a serious problem for Italy. It was necessary for her to provide at once for repatriation on a vast scale, and she also became involved in a series of complicated international economic disputes with the countries in question regarding the large unpaid amounts due to her citizens for back wages, old-age and accident pensions, and so forth. Had she been a belligerent country from the first the situation would have been even more critical, as her citizens abroad could not have all returned at once and might have been held as hostages thereby, to some extent, handicapping her complete freedom of action.

A policy based to a large extent on emigration to foreign countries, a policy which encourages or, at all events, counts on it, cannot be called dignified. Recent developments have greatly strengthened the sense of national dignity in Italy, so that there no longer exists any desire to see the movement resume its pre-war proportions unless conditions are in every way much improved.

There are still, of course, many areas in various parts of the world rich in natural resources, but very thinly populated and needing consequently more inhabitants to develop those resources. Some of these areas are in the hands of governments capable in time of developing them and of providing the necessary population, and to them Italy need not turn her attention. But there are others whose governments are unable to supply either the capital, the organization or the technical skill, to say nothing of the labour required for their development. Sooner or later those countries will be driven by force of circumstances to apply for the assistance of others who are able to provide that which they lack, or can help them to develop territories which they are unable to turn to good account ; for it is impossible for them to allow these lands to remain permanently unproductive, while the rest of the world, with its ever growing population, urgently needs their resources.

What is perhaps even more important for Italy is to secure territories producing the raw materials which she lacks, notably coal, cotton and oil, or at least to be enabled by means of international agreements to obtain these materials even from territories not directly under her own control, but without let or hindrance and more or less disguised export duties. The possession of a colony where, say, 50,000 Italians could settle, although desirable in itself, would prove less useful than an agreement whereby Italy could secure an unlimited supply of cotton at a cheap price, which would improve the conditions of the whole mass of her cotton operatives and their families—now totalling perhaps a million persons—and indeed allow it to increase considerably and bring greater wealth to all who are interested in the industry.

When the time for a new distribution of colonial territories comes —either for political control over them or for establishing guarantees for the free export of their raw materials—Italy will naturally demand her share in this partition or development. In order to make her voice heard and her just claims respected when that time comes, she must be in a position to defend her interests. These are also among the objectives to be borne in mind by those responsible for Italy's foreign policy and consequently for her armaments. There is absolutely no idea of aggression in this conception which originates solely from the necessity for being ready at any required moment and for preventing others from taking advantage of her weakness.

Italy's relations with the Eastern Mediterranean States are now on a satisfactory basis, far more so than was the case a few years ago. With Yugoslavia, as I have already said, all outstanding difficulties have been settled, a series of political and commercial agreements concluded, and trade between the two countries is extremely active; Italy indeed stands first on the list of that country both for exports and imports. With Greece, after a period of tension, largely due to competition for influence in Anatolia, and to a series of errors, not of Greece and Italy alone, but also of all other Western Powers, relations have greatly improved, and, as in the case of Yugoslavia, Italian trade with Greece is very active, Italy being third both for imports and exports. In Albania, Italy exercises considerable influence in many fields, and absorbs three-quarters of the exports and provides over two-thirds of the imports; Italian capital is also largely interested in the development of the country in various ways. Politically Italo-Albanian relations are very intimate, and Albania can rely on Italy for protection against possible encroachments.[1] Italy is on friendly terms with Rumania and Bulgaria, with both of whom Italian trade is important, and although there is less intimacy with the States than with those bordering on the Adriatic,

[1]Note. These relations have been embodied in the Italo-Albanian Treaty of 1926.

closer financial relations with Rumania have recently been established, and a Treaty concluded which it is hoped will lead to greater commercial activity between the two countries.

With Egypt and Turkey, countries which have but recently achieved a greater measure of political and economic independence than they formerly possessed, it has been difficult as yet to establish very close relations, owing to the spirit of extreme nationalism with which those two Governments are at present inspired. Nevertheless trade between Italy and both Turkey and Egypt is comparatively important; with the former in fact Italy ranks first both for exports and imports, and with Egypt third for imports and fourth for exports. There are important and long-established Italian communities in Turkey and Egypt, which for many centuries had enjoyed considerable prosperity and consideration; those in Turkey have diminished in numbers as a result of the successive wars with which that country has been involved during the last fifteen years, and at present it is difficult for Italians, as for other foreigners, to conduct business in Turkey.

It will be seen that the Balkan and East Mediterranean States represent a very important aspect of Italy's foreign relations, both political and economic, to say nothing of those intellectual relations which contribute so much to the promotion of political and commercial influence in the Near East. To retain and increase this influence it is necessary for Italy to be respected as a great Power and not regarded as a *quantité négligeable*. She must therefore, in general, inspire a conviction that, peaceful and free from aggressive tendencies though her intentions may be, she is not only organized for war and not afraid, should her supreme interests be menaced or her honour outraged, to defend herself, but also capable of doing so.

With Spain, Italy has recently concluded a treaty of friendship and collaboration, thereby extending her activities still further. With the other great Mediterranean Powers—France and Britain—relations are eminently satisfactory, and with them Italy intends to collaborate cordially for the maintenance of world peace and for the promotion of civilization. But in order to do so effectively and cause her collaboration to be adequately appreciated she must be in a position to render it really valuable.

For all these purposes Italy's fighting Services have been reorganized on a new basis, bearing in mind as far as possible, on the one hand, the lessons of the war, and on the other, the new political and economic necessities which have arisen in consequence thereof.

*The Army.*—The more satisfactory frontiers secured as a result of the Peace Treaties have rendered it possible to reduce the standing army on a peace footing to a lower figure than that obtaining before the war. There are now ten army corps instead of twelve, the divisions of which comprise three regiments instead of four. The peace establish-

ment is now 175,000 instead of 225,000.[1] But if the army is reduced in size it has been rendered far more efficient.

Its new and final organization, which has been based on the lessons of the war and the many recently introduced technical improvements, has affected the composition of both large and small units. It may be claimed that the present capacity for rapid expansion in case of need has made the Italian Army a perfect and up-to-date instrument of defence. The crisis of transformation in which some other armies are still struggling has already been overcome. The problem of mechanical traction for artillery is satisfactorily solved. A type of tank suitable for Italian soil has been evolved; all forms of electric signalling are developed; and the study of the most recent scientific discoveries with a view to most rapid technical improvement is being pursued.

The new regulations affecting the promotion of officers provide that only those who have repeatedly and conclusively proved their capacity shall attain the higher ranks of the service; they also encourage the pursuit of the military career while stimulating professional zeal and desire for improvement. Up to the rank of lieutenant-colonel promotion is chiefly by seniority; for the higher ranks it is based on merit. A captain must pass an examination before being promoted major and so must a lieutenant-colonel before becoming a colonel.

If, as is generally recognized, the strength of an army is mainly based on its spirit and on the capacity of its leaders, we can surely say that in this sense the Italian army is truly efficient.

Its peace strength is small, because its object is not to seek adventures, but to defend the national territory; yet if its actual strength is limited, its potential strength is considerable, both on account of the industrial organization of the country and of the large numbers of factories, which in case of necessity would be transformed into munition works, and on account of the admirable spirit by which the people is now inspired.

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[1]Note. The actual strength varies to some extent during the year, being at its highest between May and October, and at its lowest during the other months, owing to the method of recruiting. Conscription for the Army is on a territorial basis. The Municipalities keep the registers of the population, and all youths on attaining their twentieth year are notified and sent by them to the H.Q. of the military district wherein they are domiciled. There they are subjected to a medical examination, and if found fit and if there are no other reasons for exempting them from military service, they are assigned to the various units. This assignation is made in view of the particular qualities, occupation and capacity of each individual, although, of course, the numerical requirements of the units have to be considered. Mobilization is also on a territorial basis, each Army Corps dealing with the men in its own area (which comprises several military districts); this distribution is liable to certain modifications, according to (*a*) the superabundance or deficiency of men in each Corps district, and (*b*) the requirements of each Corps. Military service is normally for eighteen months.

There is only one drawback, depending not on men, but on nature—the scarcity of raw materials in Italy. Our country must have recourse to foreign and for the most part distant lands to make good the deficiency.

It is in this connection that Italy and Great Britain could be complementary to each other, inasmuch as Italy could rapidly mobilize a large force and place her industries on a war footing, while Britain could help her to provide such of the necessary raw materials with which she is inadequately supplied. We have, therefore, another reason, apart from political interests and genuine mutual sympathy, whereby the two countries should continue to collaborate in matters of defence as they did during the war

I must here add a few words about a peculiar and novel feature of the Italian Army. I allude to the *Milizia Nazionale.* This force had its origin in the irregular Fascist *squadre* constituted, before the present Government came into power, to crush the Communist danger. When the present Government was constituted these *squadre* were incorporated in this newly-created National Militia. Apart from its functions connected with the maintenance of public order, wherein it relieves the regular army of troublesome and unpopular duties, it has also been entrusted with the pre-military education of Italy's youth. Normally the Militia is not on duty ; its members are volunteers liable to be called out only when necessary ; its permanent staff consists of only 700 men. But it is a useful training ground for a large part of the population, and particularly for young men and boys who have not yet been through their regular military service. Formerly this pre-military education was entrusted to a variety of private or semi-private organizations, not all of them by any means efficient. Now this task is concentrated in the Militia, and it is expected that a very much larger percentage of the recruits will, when called to the colours for their regular military service, have had a fair training under the auspices of the Militia. The force is officered almost entirely by ex-officers of the regular army, who have served with distinction in the war. It should, moreover, be remembered that the Militia has taken the place of the *Guardia Regia,* created in 1919, which was a permanent regularly paid militarized police force, and was to have amounted to 100,000, although at the time of its disbandment, in 1923, it had not reached that strength. Except for the above-mentioned 700 men on permanent duty, the members of the Militia are unpaid, and only receive subsistance allowances when called out for duty outside their own place of residence. The total strength of the Militia is about 190,000 men. In time of war it would be automatically incorporated into the regular army. Three legions (battalions) of the Militia, selected from among those who voluntarily applied, have been for some time on active service in Libya, but these units were to all intents and purposes part of the army.

*The Navy.*—At the end of the war the Italian Navy was in a most satisfactory state of activity, efficiency and capacity of resistance, which

has subsequently been maintained, and this is the chief element of Italy's naval power.[1] With regard to the material of the fleet, the lessons of the war and the constant evolution and development of means of offence and defence have forced upon us the necessity of studying the complicated problem of the warship of the future, a problem common to all navies and not yet definitely solved.

The question of how best to utilize the financial resources at our disposal in order to attain the greatest possible efficiency of our naval means of defence is the object of constant study on the part of the naval authorities, and our efforts aim at arriving at a solution calculated to secure the most complete harmony between the various fighting services in relation to their eventual development.

The Italian Navy must be ready at any moment to assume a duty of the first importance for the country, the defence of the trade routes, whereby the raw materials essential to the life of the country and to its capacity for resistance are conveyed, and also to offer the best possible collaboration in the defence of the coasts and of the colonies. These are two capital problems whereon are based all potential strategic action.

In the first place, we must bear in mind the necessity of maintaining communications with the Italian colonies and with other countries on the shores of the Mediterranean and beyond whence Italy draws her supplies. Italy must import part of her foodstuffs and many raw materials from various distant countries—from those on the Black Sea coast and from others beyond Gibraltar and Suez. Rhodes and the Dodecannese are useful in this connection, but merely as *points d'appui*, since they have no ports capable of becoming formidable naval bases; they can, however, be utilized as bases complementary to those of the Italian Peninsula of Sicily and of Tripolitania. Taken together, these various points might be used to establish a regular barrage between the Western and the Eastern Mediterranean.

These possibilities no doubt tend to render Italy a valuable ally for other Mediterranean naval powers. There are therefore various common reasons of a naval character calculated to strengthen the alliance between Italy and Britain, just as there are military reasons.

Italy must keep open her routes of supply, while Great Britain must safeguard the route to India. Great Britain, if she can count on the co-operation of the Italian Navy and on the possibility of utilizing Italian naval bases as well as her own, need be less anxious about her communications with India, while Italy, with the co-operation of the British Fleet, would feel that her supply routes might be considered as proof against all attack.

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[1] For the Navy, conscripts are selected in a similar manner to that adopted for the Army, but exclusively among the *gente di mare*, i.e., the seafaring population (sailors, boatmen, fishermen, etc.). The peace strength amounts to 43,000 officers and men.

In the Tyrrhenian-Ionian area coast defence is rendered easier by the geographical situation—the existence of islands, ports and so forth, which can be utilized for the employment of naval forces.

On the Adriatic side the problem is more serious, for although, after the disappearance of the Austro-Hungarian Empire with its powerful navy, the position is more satisfactory than it was before, Italy suffers from the handicap of having a long coast line open and without any ports of use for naval purposes in war time between Brindisi and Trieste. During the war plans were made for utilizing the lagoon of Varano in the Gargano Peninsula in the province of Foggia, as an intermediate base between those two ports. Work is now being resumed in this connection.

Italy also possesses the northern part of the east coast—Trieste, Istria and the Quarnero, and the ports of Fiume and Zara. But the East coast South of Zara, not in Italian hands, is a series of deep rocky inlets, protected by double and even treble lines of islands, whence raids on the Italian coast might easily be effected and the passage of Italian ships up and down and across the Adriatic seriously impeded. Yugoslavia, the Power occupying that coast, has at present no formidable navy and its relations with Italy are of the friendliest nature. But the Italian Navy must, of course, consider all contingencies including the possible occupation of the whole or part of that coast in war by some other Power.

Another point which should be mentioned is the question of submarines. In the various international discussions with regard to disarmament, Italy has always been opposed to the definite exclusion or abolition of the submarine for two reasons. In the first place, for a nation with a comparatively small navy the submarine is of special importance as a means of defence. In the second place, as Italy is wholly a Mediterranean Power, the submarine alone offers her a possibility of operating outside the Mediterranean; it therefore strengthens her naval position, in the event of any one of those exits, or even one shore of any one of them, being in the hands of a hostile Power or of a neutral opposed to the passage of warships belonging to any of the belligerents.

*The Air Force.*—After the war the Air Force was allowed to fall into decay. At the beginning of 1923 there existed only 200 planes; a great deal of material had been sold ,the aerodromes abandoned, while Italian industry constructed hardly any planes or motors, and the personnel was very greatly reduced.

Early in 1923, after the advent of the Fascist Government, the reorganization of the Air Force was undertaken, as it was felt to be an urgent necessity, in view of the fact that Italy is particularly exposed to air attack. The Air Commissariat was created, concentrating in itself the whole of the air services, which had been formerly divided between the Army and the Navy. The aeroplane industry was reorganized,

many of the old pilots were recalled into service, while new ones were recruited and trained. The aerodromes, which had been abandoned, were taken over once more, the schools were re-opened.

By the end of 1924 this first work of reconstruction was accomplished, and there were sixty-six squadrons of various types of aeroplanes fully organized and equipped.

During 1925 the administrative organization was completed with the creation of the Air Ministry. The present Minister is Sig. Mussolini, the Premier, while the routine work is carried out by an Under Secretary. Subsequently the material was renovated by means of the newer types of planes and motors which had been evolved during the preceding two years. To-day there are 90 squadrons with some 900 machines in service, and another 900 machines in reserve. The Budget has increased in proportion to the new necessities, from 200,000,000 lire in 1923, to 700,000,000 to-day. The personnel amount to 1,300 officer-pilots and 12,000 airmen.[1]

The work accomplished has been considerable, in view of the difficulty of solving a problem needing much time, for to construct, test and correct a new type of machine requires two and a half years.

The aerodromes are scattered about over the greater part of Italy, especially in the North and the centre, while there is an important base in Sicily. There are also aerodromes at Tripoli and Bengasi, where two large squadrons are stationed. These can be very useful in operations against the rebellious tribes, and, if hitherto not much has been done in this connection, it is now intended to show greater activity, as in this way it will be possible to reduce the garrisons in Libya very considerably. There is also a small hydroplane base for defensive purposes in the island of Leros in the Dodecannese.

We have, in addition, an airship centre at Ciampino near Rome. There are not many airships, as several were sold as soon as they were finished. As a rule, less importance is attached to airships than to airplanes, although even airships may be useful in war, especially at night. During the late war the Italian airships were almost the only craft of that nature which participated in purely military bombing operations, in collaboration with the army.[2]

At the present time there only remains the task of consolidating and perfecting the work already accomplished.

In view of the necessity of solving the urgent problem of military aviation, little had been done for commercial aviation. Now, however, several commercial lines have been instituted, the preparation for which

[1] For the purposes of conscription the Air Force applies every year to the Army and the Navy for the contingent of men which it requires.

[2] The German airships did a good deal of this kind of work on the Russian front during the whole of the Great War.—ED.

took eighteen months. We have four principal lines—Genoa-Palermo, Turin-Trieste, Venice-Vienna and Brindisi-Constantinople, and others will be created in future. These will in time prove useful reserves for war aviation.

The co-ordination of the three fighting services under a single head indicates that the tendency of the Italian Government is in the direction of a unified Ministry of National Defence. As yet the three Ministries remain separate, each entrusted to an Under-Secretary of State enjoying a wide measure of autonomy, not only in matters of routine, but also in more important affairs not involving any general policy. But they are all three closely co-ordinated, and some of the services are common to all three departments, including supplies and medical services, while the Chief of the General Staff of the Army exercises certain functions which also concern the Navy and the Air Force. There are common regulations for the career and promotion of officers. Above all, the fact that the three departments are under the same Minister, Sig. Mussolini, who is also Premier and Minister of Foreign Affairs, gives a single direction to the country's policy of national defence and foreign relations.[1]

We have recently heard much talk of Italian Imperialism, and a part of the foreign press is constantly insisting on this argument, claiming that the new Italy is inspired by tendencies dangerous to the peace of the world. The best reply to statements of this kind is, I think, to be found in the speech delivered by the Italian Prime Minister in the Senate on 29th May last, which is a regular exposé of Italy's real foreign policy, and a definition of what is meant by Italian Imperialism. After setting forth Italy's attitude with regard to the Locarno Agreement and her adhesion to its principles, Sig. Mussolini added :—

" Italian Imperialism, in the sense of an aggressive Imperialism which prepares the way for war, does not exist. I will here declare . . . that the Fascist Government follows, and cannot do otherwise than follow, a policy of peace ; it has no wish to disturb the peace, and has proved its intention by its actions, by removing from the European territory bordering on ours all those possibilities of friction which might indeed have led to a conflict, to an outbreak of hostilities."

" At the same time Italy cannot afford to be wholly disarmed as long as other powers are not similarly disarmed. To desire peace," the Prime Minister continued, " does not signify to be disarmed. But we

[1] There is a Supreme Committee of Defence, consisting of the Prime Minister, the Minister of Foreign Affairs, the Ministers of the three fighting Services (at present the Prime Minister himself is at the head of all these departments, but even if they were under separate chiefs, the latter would all be members of the Committee), certain other members of the Cabinet, and the three Chiefs of Staff. As yet no common General Staff for the three Services has been formed, nor has there been organized a central intelligence department, although the three intelligence departments, at present separate, are in process of some sort of unification.

must be quite clear as to the meaning of disarmament. Disarmament must be total, otherwise it is but an ugly comedy. When I say total, I mean on land, on the sea, and in the air. It is no good thinking of a mere land disarmament, if naval armaments are maintained, or of a land and naval disarmament which should not exclude air armaments.

"Until the day when all States will have rapidly and effectively disarmed, Italy cannot disarm—that would mean suicide, the loss of her independence, of her liberty . . .

"A policy of peace, I say, but peace with dignity, peace with firmness, peace with the safeguarding of our interests against all and everywhere. Even Italy has a right to her place in the world. I consider that people in other countries should be intelligent enough to realize that this should be done in good time and with a good grace, because that is the true way of assuring peace, of establishing an equitable and lasting peace, as we read in the now very ancient gospels of the Wilsonian age . . .

"I believe that the nations who have been our allies in the Great War will be convinced that it is to their interest to meet our legitimate requests half way. In any case it should be made quite clear that nothing shall be given to anyone if Italy's share is not satisfied first."

I have, I trust, shown that the policy and aspirations of Italy do not constitute, as some critics have claimed, a danger to the general peace, but are one of its best safeguards. Italy is determined to develop her resources, to advance in all fields of progress and to secure employment at home or abroad for all her citizens and that they should be respected wherever they may be. She has no wish to encroach on the rights of other countries, but merely to safeguard her own and be ready, should the time come, for any redistribution of colonial territories, to secure for herself an adequate share of such of them as she is in a position to exploit for her own advantage and for that of the rest of the world, just as Great Britain develops her colonial territories for the common good. With her new national re-organization, Italy is at last able to pursue a foreign policy of her own, to make her own arrangements and conclude treaties without asking permission of anyone. She is determined to be present everywhere and to make her voice heard everywhere, for she feels her own strength.

Furthermore, her task is to collaborate with other great Powers, notably with those who were her allies in the war, for the maintenance of the peace of the whole world and the protection of civilization against the forces of disruption and barbarism, which are a menace to all. Her military, naval and air organization have these objects in view. Their efficiency and the keen patriotic determination by which all classes of the nation are inspired to-day, should make her collaboration a most valuable asset for this common task. Above everything, let me say how strongly all of us in Italy desire a close co-operation with Great Britain,

which cannot fail to prove mutually advantageous and of benefit to the rest of the world as well. As your greatest poet has said :—

*" Set we forward ; let*
*A Roman and a British ensign wave*
*Friendly together."*[1]

## DISCUSSION.

ENGINEER-CAPTAIN ONYON, R.N. : The lecturer has told us that Italy wishes to expand and to advance in trade, general development and national prestige. I am quite sure that we all fully sympathise with those aspirations, and wish Italy every success. I am glad to think that this country has recently supplied to Italy three very fine vessels which trade from the port of Genoa to New York and to South America. The lecturer will, no doubt, remember that their names are the " Conte Rosso," the " Conte Verde " and the " Conte Biancamano," and they belong to a company called the Lloyd-Sabaudo Company. We have lately taken out licences for the manufacture in this country of Italian internal combustion engines and valve gear for locomotives. This, it is anticipated, will result in a saving in fuel of something like 10 per cent. The device is now being tried on the London Midland and Scottish Railway. Messrs. Tosi, of Legnano, and other great engineering firms in Italy collaborate with us in our endeavours to improve our knowledge of each other's methods, and I am sure you will all agree with me that that is all to the good. I trust, therefore, that the recent decision by Italy to place no more orders for ships abroad will only be a temporary decision, as nothing can conduce more to our knowledge of each other or to our friendship, or can help more to good understandings between us than the fact that we are collaborating with each other and supplying one another with our best brains. Let us, therefore, continue to help each other as in the past. I am quite sure every one here will agree with me when I say that there can be nothing better for the safety of the world than that Italy and Great Britain should work together hand in hand.

THE CHAIRMAN : Before I ask you to assent to a vote of thanks, may I just call your attention to what seemed to me to be the points of particular importance in the lecture. One of these points which touches very closely those who are concerned with our military problems—and I use the word " military " to connote naval and air problems—is what the lecturer told us about the tendency towards a united ministry of national defence in Italy.

Another matter which touches British problems is the annual migration from Italy and its effect upon unemployment in that country. We also know that problem. Before the War, our annual emigration amounted to about 300,000. I was astonished to hear that the figures were so much greater in Italy, and that they even ran to the figure of 800,000 in 1913, the present average, as I understand, being 300,000. Our own problem at the present is that this regular outflow of migrants ceased during the War and has not been resumed ; that is one of the reasons why we have got this great problem of unemployment. I was much impressed by the lecturer's statement as to the very fine ideal that Italians have now conceived about their emigrants. We must all sympathise with that view, namely, that those who have left Italian soil should as far as possible retain their nationality and adhere to the traditions in which their forefathers were brought up.

[1] *Cymbeline*, Act V, scene V.

It seems to me that this is one of the big problems of the future; it is certainly a very interesting point to reflect upon.

From my own particular point of view, I was immensely interested in what the lecturer told us about the Milizia Nazionale. I could not help feeling ardently that I wished we had a Militia at the present time of even half the strength which they have in Italy, and which they have, mark you, as an entirely unpaid force. Do not forget that this Italian Militia receives no pay—nothing except a subsistence allowance when they are on duty; and yet they are able to raise 190,000 men. Here we have allowed the old Militia, the "Constitutional Force" in this country, which, mind you, is older than the Army, which is the force on which the liberties of Englishmen mainly depended in the olden days, the force on which the Army absolutely depends to-day for its necessary reinforcements in time of war, the force without which the Army could not have taken the field in 1914 and could not have kept the field for even two months, the force without which the Army will not be able to take the field if war breaks out again—we have allowed that force to lapse into atrophy and abeyance. It only exists on paper. In Italy, comparing like with like, you have the fact that they have been able to raise a Militia Force of 190,000 men without even paying them a single shilling, and that force has a very great educational value for the Army.

Again, with regard to what the lecturer said about submarines. On this point I hold very strong views, which I do not want to intrude upon you, yet I think they may be relevant to the subject under discussion to-day. Italy is against the abolition of submarines, and I am entirely with Italy on that point. I think that at the time when there arose an hysterical agitation for the abolition of submarines, a great deal of pernicious nonsense was talked. Let us regard it from the ordinary point of view of common sense. Why is it more infamous or inhuman to attack your enemy from below the water than it is to attack him from below the earth? There was never any suggestion that we should abolish mining and counter-mining in the War. That at all times has been an essential feature of strategy and tactics. Nor was anyone able to point out why it was more reprehensible to use a submarine which might kill non-combatants than it was to use an airship or an aeroplane which cannot help killing women and children and non-combatants when in the dead of night it bombs the enemy towns. Those things were ignored in the Great War. In their eagerness to abolish submarines, things were said by men in authority and in high places which reflected on and disparaged the magnificent gallantry and heroism of our sailors who manned our submarines, and who were worthy of all the gratitude and admiration which were bestowed on the other members of our fighting forces. I think the uncompromising statement which Commendatore Villari has made about Italy's attitude in that respect is worth remembering if only for this reason, that it is no good whatever talking about abolishing submarines so long as a powerful country like Italy is not going to do so.

On behalf of the Council of the Institution, and on your behalf, I propose a cordial vote of thanks to the lecturer for his most interesting paper.

The resolution of thanks was carried by acclamation.

Commendatore Luigi Villari, in reply, expressed his thanks to the Royal United Service Institution for having given him an opportunity of presenting a short summary of Italy's international, and, consequently, of her military position. He hoped he might thus contribute to increase the excellent relations which have always existed between the two countries, which it is hoped will be still closer and more excellent in the future.

On the motion of General Sir Edmund Barrow, a hearty vote of thanks was accorded to the Chairman for presiding.

# THE INTERNATIONAL SITUATION

## INTER-IMPERIAL RELATIONS

DURING the Imperial Conference which took place in London at the latter part of last year, a special Committee was appointed to consider the subject of Inter-Imperial Relations.

The report of this Committee, which may have far reaching effects in promoting better understanding and more cordial relationship between the different parts of the Empire, was formally adopted by the Imperial Conference on 19th November, 1926.

The following are the outstanding features of this important document :—

### I. INTRODUCTION.

Discussions were long and intricate ; they involved consideration of fundamental principles affecting the relations of the various parts of the British Empire *inter se*, as well as the relations of each part to foreign countries.

### II. STATUS OF GREAT BRITAIN AND THE DOMINIONS.

Nothing would be gained by attempting to lay down a Constitution for the British Empire. Its widely scattered parts have very different characteristics, very different histories and are at very different stages of evolution ; while, considered as a whole, it defies classification and bears no real resemblance to any other political organization which now exists or has ever yet been tried.

There is, however, one most important element in it which, from a strictly constitutional point of view, has now, as regards all vital matters, reached its full development—we refer to the group of self-governing communities composed of Great Britain and the Dominions. *They are autonomous Communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations.*

The rapid evolution of the Oversea Dominions during the last fifty years has involved many complicated adjustments of old political machinery to changing conditions. The tendency towards equality of status was both right and inevitable. Geographical and other conditions made this impossible of attainment by the way of federation. The only alternative was by the way of autonomy ; and along this road it has been steadily sought. Every self-governing member of the Empire is now the master of its destiny. In fact, if not always in form, it is subject to no compulsion whatever.

But the British Empire is not founded upon negations. It depends essentially, if not formally, on positive ideals. Free institutions are its life-blood. Free co-operation is its instrument. Peace, security and progress are among its objects.

And though every Dominion is now, and must always remain, the sole judge of the nature and extent of its co-operation, no common cause will, in our opinion, be thereby imperilled.

Equality of status, so far as Britain and the Dominions are concerned, is thus the root principle governing our Inter-Imperial Relations. But the principles of equality and similarity, appropriate to *status*, do not universally extend to function. Here we require something more than immutable dogmas. For example, to deal with questions of diplomacy and questions of defence, we require, also, flexible machinery—machinery which can, from time to time, be adapted to the changing circumstances of the world.

## III. SPECIAL POSITION OF INDIA.

The position of India in the Empire is already defined by the Government of India Act, 1919, and by Resolution IX of the Imperial War Conference, 1917; due recognition was given to the important position held by India in the British Commonwealth.

## IV. RELATIONS BETWEEN THE VARIOUS PARTS OF THE BRITISH EMPIRE.

(a) *The Title of His Majesty the King.*

The title of His Majesty the King is of special importance and concern to all parts of His Majesty's Dominions. Twice within the last fifty years has the Royal Title been altered to suit changed conditions and constitutional developments.

The present title, which is that proclaimed under the Royal Titles Act of 1901, is as follows :—

> " George V, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India."

This form of title hardly accords with the altered state of affairs arising from the establishment of the Irish Free State as a Dominion.

Subject to His Majesty's approval, the Committee recommend that the necessary legislative action should be taken to secure that His Majesty's title should henceforward read :—

> " George V, by the Grace of God, of Great Britain, Ireland and the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India."

(b) *Position of Governors-General.*

It is an essential consequence of the equality of status existing among the members of the British Commonwealth of Nations that the Governor-General of a Dominion is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain, and that he is not the representative or agent of His Majesty's Government in Great Britain or of any Department of that Government.

(c) *Operation of Dominion Legislation.*

Apart from provisions embodied in constitutions or in specific statutes expressly provided for reservation, it is recognised that it is the right of the

Government of each Dominion to advise the Crown in all matters relating to its own affairs. Consequently, it would not be in accordance with constitutional practice for advice to be tendered to His Majesty by His Majesty's Government in Great Britain in any matter appertaining to the affairs of a Dominion against the views of the Government of that Dominion.

(d) *Merchant Shipping Legislation.*

A special Sub-Conference should be invited to advise on the following general lines :—

> "To consider and report on the principles which should govern, in the general interest, the practice and legislation relating to merchant shipping in the various parts of the Empire, having regard to the change in constitutional status and general relations which has occurred since existing laws were enacted."

## V. RELATIONS WITH FOREIGN COUNTRIES.

(a) *Procedure in relation to Treaties.*

A special Sub-Committee, under the Chairmanship of the Minister of Justice of Canada (The Honourable E. Lapointe, K.C.) considered the question of treaty procedure.

The following paragraphs are based on the Sub-Committee's report :—

*Negotiation.*

It was agreed in 1923 that any of the Governments of the Empire contemplating the negotiation of a treaty should give due consideration to its possible effect upon other Governments and should take steps to inform Governments likely to be interested of its intention.

So long as the initiating Government receives no adverse comments and so long as its policy involves no active obligations on the part of the other Governments, it may proceed on the assumption that its policy is generally acceptable. It must, however, before taking any steps which might involve the other Governments in any active obligations, obtain their definite assent.

Where by the nature of the treaty it is desirable that it should be ratified on behalf of all the Governments of the Empire, the initiating Government may assume that a Government which has had full opportunity of indicating its attitude and has made no adverse comments will concur in the ratification of the treaty. In the case of a Government that prefers not to concur in the ratification of a treaty unless it has been signed by a plenipotentiary authorised to act on its behalf, it will advise the appointment of a plenipotentiary so to act.

*Full Powers.*

The plenipotentiaries for the various British units should have full powers, issued in each case by the King on the advice of the Government concerned, indicating and corresponding to the part of the Empire for which they are to sign.

(b) *Representation at International Conferences.*

The question of the representation of the different parts of the Empire at International Conferences was studied in the light of the Resolution of the Imperial Conference of 1923. The conclusions reached may be summarised as follows :—

1. No difficulty arises as regards representation at conferences convened by, or under the auspices of, the League of Nations. In the case of such conferences all members of the League are invited, and if they attend are represented separately by separate delegations.

2. As regards international conferences summoned by foreign Governments, no rule of universal application can be laid down, since the nature of the representation must, in part, depend on the form of invitation issued by the convening Government.

(*a*) In conferences of a technical character, it is usual and always desirable that the different parts of the Empire should (if they wish to participate) be represented separately;

(*b*) Conferences of a political character called by a foreign Government must be considered on the special circumstances of each individual case.

It is for each part of the Empire to decide whether its particular interests are so involved, especially having regard to the active obligations likely to be imposed by any resulting treaty, that it desires to be represented at the Conference, or whether it is content to leave the negotiation in the hands of the part or parts of the Empire more directly concerned and to accept the result.

Certain non-technical treaties should, from their nature, be concluded in a form which will render them binding upon all parts of the Empire, and for this purpose should be ratified with the concurrence of all the Governments.

(c) *General Conduct of Foreign Policy.*

The application of the principles underlying the Treaty Resolution of the 1923 Conference to matters arising in the conduct of foreign affairs generally was also examined. It was frankly recognised that in this sphere, as in the sphere of defence, the major share of responsibility rests now, and must for some time continue to rest, with His Majesty's Government in Great Britain. Nevertheless, practically all the Dominions are engaged to some extent, and some to a considerable extent, in the conduct of foreign relations, particularly those with foreign countries on their borders. A particular instance of this is the growing work in connection with the relations between Canada and the United States of America which has led to the necessity for the appointment of a Minister Plenipotentiary to represent the Canadian Government in Washington. The governing consideration underlying all discussions of this problem must be that neither Great Britain nor the Dominions could be committed to the acceptance of active obligations except with the definite assent of their own Governments.

(d) *Issue of Exequaturs to Foreign Consuls in the Dominions.*

His Majesty's Government in Great Britain will, in future, refer to the Dominion Government concerned any application by a foreign Government for the issue of an exequatur to any person who is to act as Consul in a Dominion.

(e) *Channel of Communication between Dominion Governments and Foreign Governments.*

With reference to the appointment of a Minister Plenipotentiary to represent the interests of the Irish Free State in Washington, which is now about to be followed by the appointment of a diplomatic representative of Canada, fruitful results are anticipated from the co-operation of His Majesty's representatives in the United States of America, already initiated, and now further to be developed. In cases other than those where Dominion Ministers are accredited to the Heads of Foreign States, it is very desirable that the existing diplomatic channels should continue to be used, as between the Dominion Governments and foreign Governments, in matters of general and political concern.

## VI. SYSTEM OF COMMUNICATION AND CONSULTATION.

By reason of his constitutional position, explained in Section IV (*b*) of this Report, the Governor-General is no longer the representative of His Majesty's Government in Great Britain. There is now, therefore, no one in the Dominion capitals in a position to represent, with authority, the views of that Government.

The Governments represented at the Imperial Conference were impressed with the desirability of developing a system of personal contact, both in London and in the Dominion capitals, to supplement the present system of inter-communication and the reciprocal supply of information on affairs requiring joint consideration. The manner in which any new system is to be worked out is a matter for consideration and settlement between His Majesty's Governments in Great Britain and the Dominions, with due regard to the circumstances of each particular part of the Empire, it being understood that any new arrangements should be supplementary to, and not in replacement of, the system of direct communication from Government to Government and the special arrangements which have been in force since 1918 for communications between Prime Ministers.

## VII. PARTICULAR ASPECTS OF FOREIGN RELATIONS DISCUSSED BY COMMITTEE.

It was found convenient that certain aspects of foreign relations on matters outstanding at the time of the Conference should be referred to us, since they could be considered in greater detail, and more informally, than at meetings of the full Conference.

(a) *Compulsory Arbitration in International Disputes.*

The feeling was that it was at present premature to accept the obligations under Article 36 of the Statute of the Permanent Court of International Justice, providing for the compulsory submission of certain classes of cases to the Court. A general understanding was reached that none of the Governments represented at the Imperial Conference would take any action in the direction of the acceptance of such compulsory jurisdiction of the Permanent Court, without bringing up the matter for further discussion.

(b) *Adherence of the United States of America to the Protocol establishing the Permanent Court of International Justice.*

Connected with the question last mentioned was that of adherence of the United States of America to the Protocol establishing the Permanent Court of International Justice.

The special conditions upon which the United States desired to become a party to the Protocol had been discussed at a special Conference held in Geneva in September, 1926, to which all the Governments represented at the Imperial Conference had sent representatives. Each of these Governments is in accord with the conclusions reached by the special Conference and with the action which that Conference recommended.

(c) *The Policy of Locarno.*

The Imperial Conference was fortunate in meeting at a time just after the ratifications of the Locarno Treaty of Mutual Guarantees had been exchanged on the entry of Germany into the League of Nations. It was therefore possible to envisage the results which the Locarno Policy had achieved already, and to forecast to some extent the further results which it was hoped to secure. From the

standpoint of all the Dominions and of India, there was complete approval of the manner in which the negotiations had been conducted and brought to so successful a conclusion. Finally :—

> " The Conference has heard with satisfaction the statement of the Secretary of State for Foreign Affairs with regard to the efforts made to ensure peace in Europe, culminating in the agreements of Locarno ; and congratulates His Majesty's Government in Great Britain on its share in this successful contribution towards the promotion of the peace of the world."

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## THE SITUATION IN CHINA

### AT THE OPENING OF 1927.

THE problem of China was discussed in the last number of this JOURNAL. In order to make intelligible the situation which has developed since, it is necessary to re-state certain facts.

The nominal Government of China is at Peking, and is recognized by the Powers. It is, however, a government with little or no control over the greater part of China, and is mainly dependent for such power as it has on the goodwill of Chang-Tso-Lin, the Manchurian *de facto* ruler, and on the uncertain support of Wu-Pei-Fu. The latter controls forces in the part of the country lying between the Yangtse and Peking. He fought against Chang-Tso-Lin in 1924-5, but at present is nominally his ally. It is, however, a very half-hearted alliance, and Wu-Pei-Fu is reported to be putting difficulties in the way of the movements of Chang's troops against the Cantonese.

There is a rival government in the South of China which claims to be the constitutional government. It is composed of members of the Kuomintang, or nationalist party, who formed a majority of the last parliament which actually sat at Peking in 1913, and who fleeing thence, after their proscription by President Yuan-Shih-Kai, set up a revolutionary government at Canton.

The object of the Cantonese party is two-fold. They wish to establish themselves as the only and recognized government of China, and they wish to abolish all concessions and extra-territorial rights enjoyed by foreigners in China. Their first object brings them into conflict with Peking and the northern troops, the second affects the Foreign Powers and particularly Great Britain. The situation is complicated by the fact that in addition to the principal opponents, there are in various provinces a number of other Chinese leaders who have troops and irregulars at their disposal, and who are pursuing their own ambitions. Their attitude is uncertain and their actions help to increase the general chaos. The proceedings which led to the naval action at Wanhsien on 5th September will serve as an instance. The engagement was the result of the seizure of British ships by Yang-Sen,[1] Military Governor of Szechuan, who was nominally an enemy of the Cantonese.

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[1] Yang-Sen is reported (January, 1927) to have joined the South.

A further complication arises from the fact that the Chinese, divided on other questions, are probably nearly unanimous in disliking the extra-territorial rights and privileges of the foreigner. Their reasons for dislike vary. The workers who form the mob are easily incited by members of the labour unions, who hate the foreigners as capitalists. The students, many of whom have been in Europe or America, are conscious of and resent the racial barrier between the white races and the oriental. The politicians and soldiers wish to be left to indulge their desire for corruption, illegal taxation and loot. The only body of men who are friendly are the merchants, who thrive on foreign trade. It matters little to them whether or not foreigners enjoy extra-territorial rights, so long as trade continues.

Another factor in the situation is the financial question. At the Washington Treaty of 1922, the Signatory Powers approved, in an annex to the Treaty, of certain increased import taxes being imposed by China. Owing to disagreements among the Powers, which do not concern the present discussion, there was a delay of several years in bringing the taxes (known as the Washington surtaxes) into force. On 28th December, 1926, the British Government in a note to the Powers proposed the immediate application of the surtaxes. Favourable replies were received from many of the Powers. The British Government's proposal was strongly resented by the Cantonese, on the grounds that two-thirds at least of the proceeds of the taxes would go into the hands of the Northern Government and their allies.

On 7th September, the Cantonese captured Hanyang and Hankow. By the end of October they were north of Hankow in contact with Wu-Pei-Fu's forces, while to the east they were engaged with the troops of Sun-Chuang-Fang[1] at Wusneh on the Yangste. During the last quarter of 1926 the situation of foreigners at Hankow, and in particular the British, grew gradually worse, culminating in dangerous riots on 3rd January. On that day for many hours the barriers enclosing the British Concession were held against the Chinese mob by a small force of bluejackets and marines with admirable restraint under great provocation. The next day the British authorities, anxious to avoid bloodshed, withdrew their forces under a guarantee by which the Cantonese undertook the protection of the British Concession. The Cantonese proved unable (and possibly unwilling) to prevent further rioting, damage to buildings and intimidation, and it was decided to evacuate British women and children and send them to Shanghai. Later it was reported that the British flag had been hauled down at Hankow.[2]

These occurrences caused at the time a certain amount of dissatisfaction at home and in British circles in the Far East, but fuller information has shown that evacuation was the only possible course.

[1] The Military ruler of Shanghai and the three neighbouring provinces, and opposed to Canton.

[2] The British Consul and male British subjects remained in the British Concession.

While these events were taking place at Hankow, anti-foreign feeling was growing all over China, and particularly in the Yangtse valley. Threats and outrages took place at Kiukiang, Chingkiang, Changsa and Chengtu. Towards the middle of January, missionaries and other British and Americans were withdrawn from outlying places and concentrated at various points on the Yangtse. Incidents hostile to foreigners also took place at Amoy, Foochow and Canton.

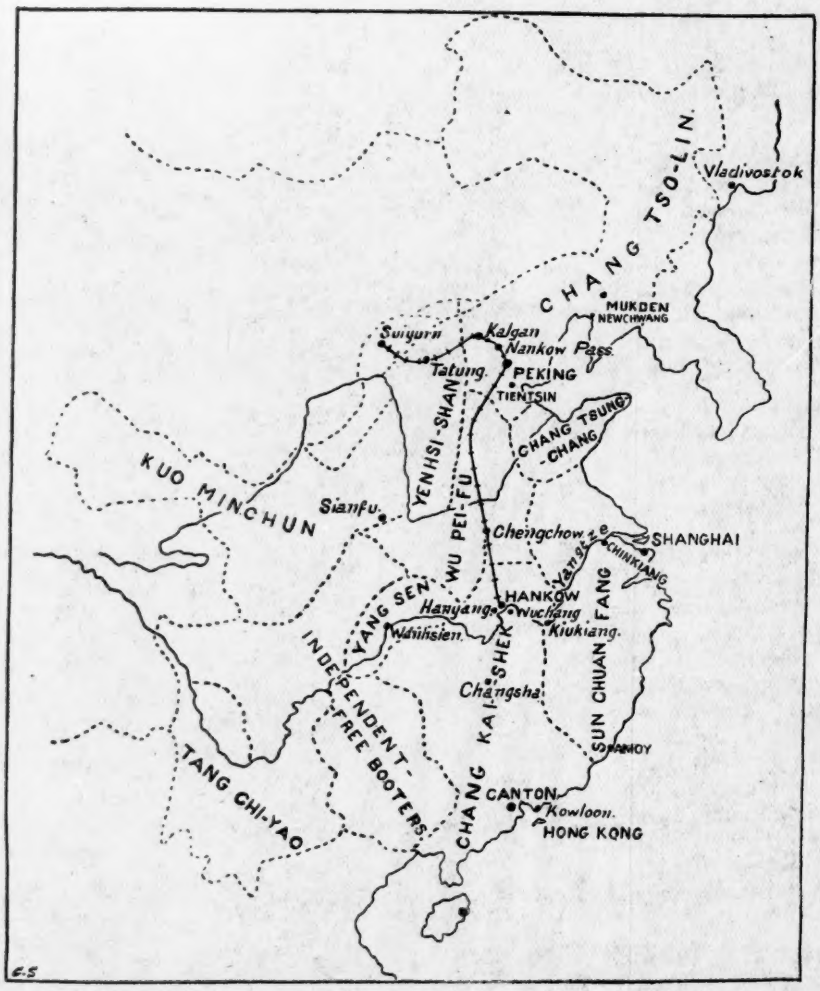
The crux of the situation has been, and is, the wealthy and important Foreign Settlement at Shanghai. The total foreign population of Shanghai is about 50,000, of whom 7,000 are British, and the sum of £200,000,000 has been mentioned as an estimate of the value of foreign property and vested interests. The British Concessions in China are: Canton, in the province of Kwangtung; Hankow, Kiukiang and Chingkiang on the Yangste; Amoy on the coast of Fukien; and Tientsin (in Northern territory).[1] There are also British subjects to be found at a great many other points on the coast and in the interior of China.

The British Government have made clear their intention to defend Shanghai with all the naval and military forces which may prove necessary. In the case of the smaller Concessions the Navy can afford protection against rioters and local brigandage. To do so means a dispersal of force and demands a large number of vessels.

Meanwhile negotiations are being continued with the Cantonese leaders. As already stated, the latter are pressing for the recognition of their government and the abolition of the Concessions and extra-territorial rights. Security of life and property for our nationals, and no unreasonable obstacles to trade are the primary objects of the British Government. If these objects can be attained and preserved without Concessions or extra-territorial rights—well and good. The situation at present is that there is little guarantee of security. The Southern Government's sphere of influence is variable. It is estimated that they are the dominant party in one-fourth of the area of China, and rather more than one-third of the population is in their sphere of nominal control. They enjoy perhaps 25 per cent. of the proceeds of the Washington surtaxes, if collected. At present only about a quarter of the total value of British interests in China lies within the territory controlled by the South.

The Kuomintang party draws its main support from the labour unions and the students. It is an ultra-radical party and is dominated by its most extreme members. Its leaders have themselves stated that they are unable to control the forces they have called into being. The Russian Bolsheviks are in close relations with the South and have numerous agents in Southern Territory, while the Cantonese army is accompanied by a number of Bolshevik officers.

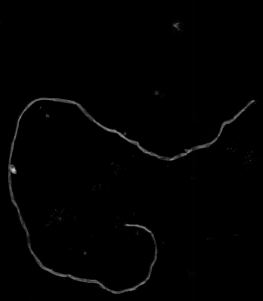
[1]See map.




**PREDOMINANT INFLUENCES IN CHINA**

This map is only intended to give a general impression of the political and military influences in China. The actual boundary lines are, of course, quite indefinite and constantly changing; nor do the areas represent the numerical strength of the population within them.

PROVINCES IN CHINA



An important consideration which hinders British recognition of the Southern Government is that such action conduces to the splitting up of China into two States, unless recognition is to be withdrawn from the Peking Government. North and South are alike opposed to the division of China.

In these circumstances the British Government is naturally unwilling to abrogate its treaty rights in favour of a government which is far from being the effective government of China. The policy being pursued is that of protection of British interests and willingness to negotiate, if and when there is some guarantee that we are dealing with a government able to fulfil its obligations.

It remains to describe the internal military situation. It is estimated that the strength of the Southern armies is approximately 200,000. There are further nondescript provincial armies of doubtful allegiance who have been incorporated since the beginning of the present campaign. With these the total strength may be 300,000. Some 25,000 of the Southern troops are said to be in the province of Kwangtung, round and about Canton. These armies are armed with rifles, hand grenades and machine guns, and a certain amount of light artillery. They have also a few aeroplanes. Generally speaking the Southern forces may be described as numerically imposing, but of inferior fighting value.

On the Northern side, Chang-Tso-Lin has armies, numbering about 100,000, who are beginning to enter the North of the province of Honan. They may be able to overawe Wu-Pei-Fu's troops, numbering about 40,000, but it is possible that the latter will not fight on either side. Marshal Sun-Chuan-Fang, the ruler of the provinces round Shanghai, has perhaps from 60,000 to 80,000 troops at his disposal. There are also 60,000 troops under Chang-Tsung-Chang (Military Governor of Shantung). They occupy the area lying to the East of the territory under Wu-Pei-Fu, and to the northward of Sun-Chuan-Fang. They are unlikely to co-operate in the direct defence of Shanghai.

A Shanghai Defence force, details of which will be found in Army Notes, p. 208, has been despatched from England and India with the object of safeguarding British lives and property pending the restoration of responsible government in China and a satisfactory conclusion to the negotiations which are in progress.

The total British naval force in China at present[1] is as follows :—

*China Squadron.*

*Cruisers* : " Hawkins," " Carlisle," " Despatch," " Durban," " Vindictive."

*Gunboats* : 15.

*Sloops* : 4.

*Submarine Tenders* : 3.

*Submarines* : 12.

*Armed Launches* : 3 (temporarily commissioned).

[1] *1st February, 1927.* (*See also Navy Notes, page* 188).

*Reinforcements* (already on the Station).
*Cruisers*: "Caradoc," "Emerald," "Enterprise."
*Destroyers*: 3rd Flotilla, consisting of a Leader and 8 Destroyers
*Aircraft Carrier*: "Hermes."

*Reinforcements* (on the way).
*Cruisers*[1]: "Frobisher," "Delhi," "Dragon," "Danae," "Dauntless."

*Destroyers*: 8th Flotilla, consisting of a Leader and 8 Destroyers.
*Aircraft Carrier*: "Argus."
*Gunboats*: "Aphis," "Ladybird."

*Summary*.—The ultimate total force will be 13 Cruisers, 2 Aircraft Carriers, 18 Destroyers, 17 Gunboats, 3 Submarine Tenders, 12 Submarines, 4 Sloops and 3 Armed Launches.

LATER DEVELOPMENTS.

On 27th January a simultaneous declaration of policy was made by the British representatives to the Northern and Southern governments. The proposals may be summarized as follows:—

(1) *Extra-Territoriality*.—The British Government is prepared to recognise the modern Chinese Law Courts (without the attendance of a British official) as competent Courts for cases brought by British subjects; also, to apply in British Courts in China existing Chinese civil and commercial codes and subordinate legislation.

(2) *Tariffs*.—British subjects to pay regular Chinese taxation—including a national tariff when promulgated, but not involving discriminating against British subjects and goods.

(3) *Concessions*.—Arrangements at each port either for the amalgamation of the administration with that of adjacent areas under Chinese control or for some other method of handing over the administration to the Chinese while assuring to the British community some voice in municipal matters.

The British proposals were accompanied by a statement giving the reasons for the dispatch of troops to the East. The Cantonese, Chang-Tso-Lin, and Sun-Chuan-Fang have all protested formally against British troops being sent to Shanghai.

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## THE LIMITATION OF ARMAMENTS

The Naval, Military and Air Sub-Committee of the Preparatory Commission for the Disarmament Conference issued a report on their deliberations which was published about the middle of January.

[1] At Hong Kong.

This report makes very apparent how complicated are the questions involved and how wide is the divergence of opinion on the subject between the representatives of the various nations. In many cases as has been indicated before in the JOURNAL, there are *blocs* of nationals holding views which are diametrically opposed to those of other representatives. The report to a large extent, therefore, consists of an expression of the opinion of a majority, followed by a declaration by the various representatives who find themselves in a minority.

Most important, from the point of view of British interests, is the declaration of our Delegation, in connection with the view-point subscribed to by Belgium, France, Italy, Czechoslovakia, Poland, Roumania, Yugoslavia and Spain.

The opinion of this Continental *bloc* is that although " each of the main categories of armaments (land, sea and air) possesses special characteristics, it is nevertheless necessary to study them constantly in combination in order to judge of the effect that a measure taken against one of them is likely to have upon the others."

The British Delegation, while agreeing that the closest co-operation between the various fighting Services is now an accepted necessity, was unable to subscribe fully to all the arguments stated in the Report and to the paragraph above mentioned. Their declaration added :—

" It must be recognised that this paragraph is written from the point of view of a Continental country and, as such, there are no criticisms which the British Delegation would venture to make on it. But the factors which apply so cogently to a Continental country do not apply in equal measure to an insular country. An insular country with large overseas possessions and interests is obliged to maintain its forces for reasons which differ from those applicable to Continental countries. Thus, for example, the navy of an island power is maintained for two primary reasons : (*a*) The safeguarding of its trade routes, commerce, and food ; and (*b*) The defence of its own coasts and those of outlying parts of its empire. A maritime empire, in view of its great responsibilities for safeguarding its lines of communication, requires a navy which is affected only to a certain degree by the size of navies of neighbouring countries.

" The same broad principles apply with regard to the armies maintained. The armies of Continental nations are maintained with the primary object of protecting their country from aggression. The army of a maritime empire is maintained to supply the needs of its overseas commitments. Even more than in the case of the navy, it is true to say that the size of the army is practically independent of the size of the armies of its neighbours.

" The above statement of the primary roles of the army and navy of such a Power demonstrates clearly that their duties practically never overlap.

" The essential difference between the navy and the army of a country, as viewed from the Continental and insular standpoints, has been briefly considered above. This difference does not apply in at all equal measure to the air forces maintained in the two different types of country, since the air is a medium free from the limitations which necessarily limit the action of land and sea forces. It follows, therefore, that a maritime country, unless, indeed, it is beyond the striking range

of possible antagonists, must possess an air force which is sufficiently strong to repel invasion, and in consequence it follows that the air forces must bear direct relation to the air forces available of neighbouring countries.

"The British Delegation has already emphasised that the principle of co-operation has been recognized in every staff college and school of war. There is no wish on the part of the British Delegation in any way to dispute the fact that the close relationship between the various forms of fighting Services results in certain subsidiary operations of war being possible of execution by more than one branch, but the broad principles which underlie the main functions of each of the three Services appear to be so distinct as to warrant their consideration separately, and not in combination.

"Finally the British Delegation would add one further point. They feel that a detailed consideration of this very complicated subject will inevitably lead to a great expenditure of time and effort, and they cannot help being exceedingly doubtful of the practical results to be achieved. It appears to them likely that an effort may be made to obtain some practical result by approaching the matter in that mathematical frame of mind which was deprecated by many of the delegates at the Preparatory Commission. The British Delegation are of the opinion that it would be very difficult indeed to combine in one index figure the comparative strength of each of the three armaments to which each State will be justifiably entitled. It seems, moreover, quite impossible to compare the armaments value of a battalion, a battleship, and an air squadron. To reduce these dissimilar factors to one common denominator would appear to be an abuse of mathematics, against which the Sub-Commission were warned more than once in the Preparatory Commission, and, if attempted, would be almost certain to lead to the adoption of an arbitrary ratio bearing no relation to the realities of the case."

In spite of the fact that the labours of this Sub-Committee appear to have emphasized the conflicting interests involved and the impossibility of securing anything approaching unanimous agreement on a large number of vital points, the usual optimism and idealism still pervades diplomatic circles at Geneva. Mr. de Brouckere, chairman of the last session of the Commission, expressed the view that a satisfactory solution of the disarmament problem was attainable and Lord Cecil has also since proclaimed his confidence in securing a settlement.

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## ANOTHER NAVAL CONFERENCE?

There are indications that a certain section of opinion in the United States, headed by President Coolidge, is desirous that that country should initiate another Naval Conference on the lines of the Washington one. The proposals to authorise a large cruiser construction programme and for accelerating that already approved would seem to indicate a desire on the part of America to put herself in a similar strong position for bargaining to that which she enjoyed at the Washington Conference.

In this connection it is interesting to note that the Italian Delegation at Geneva has now deserted the French *bloc* on the point that

naval strength should be computed on a basis of total tonnage, to the extent that they have since expressed the opinion that " while we have always maintained that limitation by total tonnage is the most equitable method for smaller navies, we have never contended that a method of limitation by classes in not equitable for the larger navies or that the two methods cannot be taken together."

The Spanish Delegation now also support the Italian view.

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## JAPAN AND DISARMAMENT

By CAPTAIN M. D. KENNEDY (*now a resident in Tokyo*).

THE Japanese attitude towards the question of disarmament is more or less in line with our own. In principle she strongly advocates armament reduction as, quite apart from anything else, she would welcome the chance to reduce her budget and set aside for education, for improvement of internal communications, and for other similar purposes, the money that she is now forced to spend on her defence forces. The Japanese are, however, an eminently practical race and are not so foolish as to forego paying their insurance premium merely because their house is *likely* to be safe from fire during the next few years, for that, in the final analysis, is what the annual expenditure on the three fighting Services amounts to.

Unfortunately there was a time, not so very far distant, when Japan's actions led the world to regard her as being possessed of aggressive intentions, and despite the practical steps taken by her during the past few years to throw off this stigma, there are still many people who retain the bogey of Japanese military aggression in their minds. Space forbids anything like a full statement to discount this lurking belief, but even a brief survey of the main outstanding facts should help to disprove that Japan need be regarded as a military menace, or that she is not sincere in her avowals that she would welcome the opportunity to cut down her armaments still further and thereby reduce expenditure.

The naval sacrifices which she, in common with the other great Powers, made at Washington need no special emphasis here, as they have been narrated so frequently in the recent past ; but it is perhaps worth recalling that, not only did she agree to cut down her naval strength, but that she also withdrew her troops from Siberia and Shantung, and later from Saghalien too, despite the assertions of those prophets who maintained that she meant to retain, for good and all, the footholds that she had made for herself. Not only this, but within a short time she set about reducing the size of her army voluntarily, first by cutting down the total personnel, and later still—last year, to be exact—by scrapping four whole divisions, thus reducing the strength from 272,000 in 1920 to about 180,000 five years later.

The Army is now organized into seventeen divisions and four cavalry brigades, a force which, in view of possible developments on the Asiatic mainland, where railway and other rivalry between Japan and Soviet Russia might quite conceivably lead to a clash at some time in the future, cannot be considered unnecessarily large, as at least ten divisions would have to be despatched on the outbreak of war in order to cover the territory between the Tumen and Changchun, whilst two more would have to be kept in Korea, and this would leave only five in the Home country as a reserve.

So long, therefore, as Russia is not a party to armament reduction, it is most unlikely that Japan would agree to reduce her army any further. The only reduction to which she would probably agree, therefore, is naval, as her air forces, like her army, would not bear much paring down. Her agreement in regard to naval reduction would, however, be contingent on the present naval ratio of the Powers either remaining as it is, or being made more favourable to herself. A reduction entailing the present ratio being altered adversely to herself would almost certainly be rejected, as the basis of her naval policy is to be sufficiently strong to hold off any Power which threatens to interfere with her affairs in Eastern Asia, and the present ratio does, in fact, appear to guarantee this. Whilst giving her this assurance, however, it does not give her sufficient margin of strength to set off on any wildgoose chase in an attempt to seize territory far removed from her own, and this is a fact that does not seem to be borne in mind by those who, even now, are obsessed with the bogey of a Japanese invasion of Australia or California.

*November*, 1926.

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## GERMANY.

### COLONEL GENERAL VON SEECKT.

*(Reproduced by permission of the General Staff).*

The resignation of Colonel General Hans von Seeckt from the post of " Chef der Heeresleitung " (Chief of the Army Directorate) was accepted on 8th October last. The official reason was that he had permitted Prince Wilhelm, the son of the ex-Crown Prince, to serve in the 9th Infantry Regiment on an irregular engagement, and without his having taken the prescribed oath of allegiance to the Republican Constitution. The Republican Press published the facts and an official " Démenti " was immediately issued by the Minister of Defence, who was, at the moment, unaware of the truth. On learning it he informed von Seeckt that he would be unable to undertake his defence in the " Reichstag," and the " Chef der Heeresleitung " perforce tendered his resignation to the President of the Republic.

*Military Career.*—The son of General Richard von Seeckt, who commanded the 5th Army Corps at Posen, Hans von Seeckt was born in 1866, and spent his early days at Detmold. In 1887 he was commissioned into his father's old regiment, the Kaiser Alexander Garde Grenadier Regiment, in which he served up to the moment of being appointed to the Great General Staff.

In 1914, at the age of forty-eight, he was Colonel and Chief of Staff of the III Army Corps, which fought against the British at Mons, Le Cateau and on the Ourcq. At Soissons he gained the order " Pour le Merite." Falkenhayn, who held him in high esteen, appointed him, early in 1915, Chief of Staff to the XI Army under General Mackensen in Galicia. This army commenced its attack on the Russians on 2nd May, 1915, and captured Przemysl after a month's operations, the Russians retreating on a 250 mile front. These operations demonstrated the possibilities of the " break through " attack in modern war. It is not surprising, therefore, to note von Seeckt's insistance during recent manœuvres on the importance of penetration when he found that his subordinates, dazzled no doubt by the brilliance of Tannenberg and Lodz, were overdoing enveloping operations.

On the completion of the Galician campaign, Mackensen was appointed to command an army group, formed on 30th September, 1915, and consisting of one German, one Austrian and one Bulgarian army. Von Seeckt was appointed Chief of Staff of this group, which carried out the Serbian campaign of that winter. The operations started on 6th October, 1915. The Serbians were attacked from the North and East, and by 25th November, the Serbian army was dispersed and the country over-run. It is alleged that von Seeckt urged that Salonica should be seized, but that the Kaiser opposed this plan.

In 1916, von Seeckt was appointed Chief of Staff to Tsar Ferdinand of Bulgaria, a post he relinquished in the autumn of that year on account of differences of opinion with the Bulgarians.

In 1917, after a period of unemployment, von Seeckt replaced Major-General Bronsart von Schellendorf as Chief of the Turkish General Staff, where he remained till just before the Armistice.

On his return to Berlin he was considered the probable successor of Ludendorff after the latter's resignation, but General Gröner was finally appointed and Seeckt was sent to Versailles as a member of a commission to deal with questions concerning prisoners of war. He returned to Germany with Brockdorff-Rantzau, with whom he formed a close acquaintance. (Brockdorff-Rantzau is the present German Ambassador at Moscow).

Von Seeckt's next post was Chief of Staff to General von Below, who commanded, in the spring of 1919, the Northern army on the Eastern Front, with headquarters near Königsberg. This army was guarding the eastern frontier against an expected Bolshevik invasion, which did not, however, eventuate.

On the disbandment of the Great General Staff, von Seeckt was appointed deputy Chief of Staff by Noske, the Minister of Defence, and General Gröner was sent to liquidate matters in the East.

On 13th March, 1920, an attempt was made to overthrow the Republican Government by a *coup d'état* known as the " Kapp Putsch." This *coup* had the support of the Commander-in-Chief, Lüttwitz. The Government fled after entrusting von Seeckt with the restoration of order. This he succeeded in doing without firing on the rebels. On the return of the Government he was appointed acting " Chef der Heeresleitung," and from this moment he undertook his great task ,the reorganization of the new army—the Reichsheer.

In July, 1920, he accompanied the Chancellor to the Spa Conference and on his return was appointed " Chef de Heeresleitung," a post he held until his recent resignation, and during the tenure of which the present German Army evolved.

In 1923, when the Government was threatened by Communist risings, von Seeckt was appointed military dictator. He showed great ability in eliminating opposition and restoring tranquility.

In 1924 the army, under the leadership of von Seeckt, stood by the Government and put down the Hitler-Ludendorff Putsch in Bavaria.

*The Man.*—General Richard von Seeckt, the father, in some way or other so deeply offended the Kaiser that he struck him off his visiting list and refused to see him. As the offence was slight and unpremeditated a bitter feeling grew up in the Seeckt family against such injustice. When the present general was a young officer he was always appointed to distant stations to keep him out of the Kaiser's way, and consequently he imbibed his father's sense of resentment. It is a knowledge of this underlying feeling which made von Seeckt so popular with the democratic governments.

His capacity for work is enormous. It has been stated that during a crisis, when the strongest could only work continuously for some twenty-four hours, von Seeckt could continue uninterruptedly for seventy-two. Tsar Ferdinand of Bulgaria is alleged to have described von Seeckt as the best organizer and clearest brain in the German Army.

His recent career has at any rate shown him to be a man of calm and considered judgment, of indomitable energy and strength of purpose, and when necessary, an accomplished diplomat. Outwardly he was cold and formal and there are few who could approach him on anything approaching terms of intimacy. An intimate states, however, that he is broad-minded, with a very human heart and a cultivated mind. A notable success has been his elimination of politics from the army. This is all the more remarkable when it is remembered that most of the officers started their careers in the old Imperial Army, and were ardent nationalists. He is a man of private means, and has been in England and India, and is said to be pro-English and a great protagonist of games.

It is asserted that von Seeckt is one of an influential party in the " Reichswehrministerium " who would have preferred a much closer *rapprochement* with Russia and were definitely opposed to the Locarno policy.

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## TRADE OF THE UNION OF SOCIALIST SOVIET REPUBLICS

*(Reproduced by permission of the Naval Staff).*

AT the time of the formation of the Union of the Socialist Soviet Republics, after the revolution, the State credit and foreign trade of Russia were practically non-existent and her home industry was entirely disorganised.

The Soviet Government has for the last eight years been striving to re-establish her home production and foreign trade under the new regime of State monopoly.

Under State monopoly where private capital has been eliminated, home production and industries, and consequently export trade, of necessity become dependent on State subsidy, and the unfavourable balance of import trade on State credit.

It is not proposed to attempt to deal here with the intricacies of this new regime, the financial conditions of the State, the formation of State trusts, the commercial agreements with foreign Powers or the State trade organisations set up in foreign countries, but it may be stated that although the present rulers of the Republic are emphatic in their

declared determination to maintain the principle of State monopoly, progress in the reorganisation of industry and trade has only been obtained after a considerable modification of the principle in the direction of concessions to private capitalists and the formation of mixed companies. Further, the Soviet Government has lately been brought to realise that still greater elasticity is required if international trade is to be increased, and it is considered probable that in a short time foreign exporters will be able to enter into direct contact with Russian consumers.

What progress can be effected under a system at variance with that obtaining in the outside world, or what further evolution in policy may facilitate such progress, it is difficult to predict, but an advance in home production and foreign trade has undoubtedly been made in the past few years. Serious efforts have been, and are being, made, to augment production in the main resources of the country, and ambitious programmes are put forward by the Government at the commencement of each financial year.

Apart from the political atmosphere and the power of the peasants in connection with the grain harvest, which is the principal economic concern of the Soviet, the main difficulties to be contended with are questions of State credit and internal transport.

Statistics of home production and foreign trade for the last few years are only useful to show progress. In no case have the figures of 1913 been reached and, the economic situation being in a state of continual change, none of the later years can be taken as representative.

The degree of success that awaits the new regime cannot be estimated and the potential resources of the country can at present, therefore, be judged only by 1913 figures.

*Important Commodities.*

*Grain.*—Facility to export grain is dependent on the price in the home market. If the price remains sufficiently favourable to the peasant to persuade him to sell, export on a large scale is impossible. If prices are forced down by the Government, the peasant will be unable to satisfy his requirements in industrial material and industry will suffer in consequence.

The harvest for 1924 failed on account of the drought. In 1925, although the harvest was good, the grain export failed owing to the refusal of the peasants, who form eighty per cent. of the entire Russian population, to send their grain to the collecting centres because they did not consider the State was offering a fair price. Later, the Government retaliated by refusing to buy, and thereby eventually got all the grain they needed at cheap prices. That, however, was only when it was too late for export purposes.

Under the New Economic Policy of 1921, the area under grain cultivation rose from 50 per cent. in 1921 to 75 per cent. in 1924, of the

pre-war area, and production of cereals rose in 1924 to two-thirds of the pre-war figure in spite of a bad harvest.

Rye occupies the most important position among all kinds of grain culture—one-third of the grain area is under rye.

*Coal.*—The revival of the coal industry started in 1921.

Output was increased in first quarter of 1925, curtailed in spring of 1925 and increased again in June.

Although production does not meet requirements, home markets did not consume 1924 output and a stock of 2½ million tons accumulated. Export was negligible and below production cost, but considerable efforts are being made to increase export.

*Oil.*—A steady increase is being made in the oil output. Total output for 1924–25 was about 7 million tons (424 million poods), 16 per cent. more than the year before. About 1.3 million tons (81.6 million poods) were exported—44 per cent. over 1923–24. The chief customers were :—

| | Per cent. | | Per cent. |
|---|---|---|---|
| Britain .. .. | .. 25 | Germany .. | .. 14 |
| Italy .. .. | .. 19 | France .. .. | .. 11 |
| Egypt .. .. | .. 14 | Other countries .. | .. 17 |

The adoption of the most up-to-date methods, both for drilling and refining, is already bringing Russia again into the limelight as the most important European centre of oil production. Russia is steadily recapturing the markets of the near East, as well as of Europe, for her petroleum products.

The increase of export to Germany has been remarkable and the export of naphtha to Italy has increased.

Russia contracted last year to deliver 75,000 tons of benzine to Germany and double that amount to France. Press reports state that the oil requirements of the French Navy are to be almost entirely covered by oil from Russia.

The big U.S.S.R. Oil Trust has been granted large concessions in Turkey for establishing storage accommodation at Constantinople and Smyrna for 200,000 tons kerosene oil. It has obtained about 60 per cent. of the Turkish kerosene oil trade, but is short of tankers.

Russia herself is short of oil. The Soviet Government, desirous of procuring all the foreign gold they can, are forcing export trade and depriving the country of a product essential to its economic development.

*Textiles Industries.*—During the civil war the cultivation of industrial plants fell enormously, due partly to the destruction of crops and animals, the ruin of farms and industries, accentuated by the substitution of grain cultivation as a result of the famine. A revival began in 1922. The Soviet Trade Control Commissioners assert their conviction that the Union has brilliant prospects as a textile producing country,

and strenuous efforts are being made to raise production to pre-war level.

Cotton is the most important of the industrial plants of Russia. It is grown extensively in central Asia and Transcaucasia; the area under cotton is capable of considerable expansion and plantings have been largely increased of late years.

Production of flax is increasing, and up-to-date methods of working up are being substituted for primitive peasant methods. Before the war Great Britain imported a large proportion of the Russian flax output.

Among the productive branches of the industry the manufacture of cotton has developed most satisfactorily, the demand for cotton goods exceeding that for other wares. The demand for linen goods has declined on account of high prices. The requirements in raw material were met from old stocks until 1922, since when importation has been resumed. As in other commodities, the importation of cotton and consequent progress of the industry is hampered by lack of credit and inability to pay. In 1925 a 44 million dollar cotton deal was effected with the U.S.A.

*Paper Industry.*—The paper industry in Russia is badly in need of extension and technical development. About 80 per cent. of requirements in newsprint, in 1924–25 105,000 tons of paper, has to be imported. Present requirements are more than double those of 1913, the rise of cultural standards and the people's cultural needs being claimed as the cause of the increase. Two new paper factories are being built.

*Timber.*—The timber resources of the U.S.S.R. represent immense wealth and it is predicted in the country that in time the export of this commodity may become the chief Russian article of export.

Even before the revolution more than half of the forests were State owned, and they represent a considerable revenue. In 1913 the profit from State owned forests was 58.8 million roubles.

Lack of money and transport difficulties are the chief drawbacks to the U.S.S.R. exploiting this source of income to its full extent. The Government has lately returned forestal lands to the farmers and has granted them felling rights for timber in all Government forests.

*Bristles.*—Russia and China are the principal providers of bristles in the world, and owing to present unrest in China, Russian bristles have, to a great extent, regained their pre-war pre-eminence in the foreign market.

*Metal Mining and Industry.*—Ore mining in Russia has not yet recovered from the setback of 1918.

In the case of manganese mining, recovery has also been slow.

Russia is suffering from a shortage of metals, which neither the speeding up in output capacity nor the extension of works has been

able to alleviate. The advance recorded on all sides should not be under-estimated and ambitious plans are on foot, but no material improvement can be possible until financial difficulties have been overcome, and above all, the considerable shortage of skilled workers remedied.

The rigid control exercised by the authorities over metal imports is keeping the supply of foreign metal in Russia very low, and demand cannot be met from that source.

Manganese ore extraction in Nikufod area in 1924–25 was double that of 1923–24 and went chiefly to Germany and Poland. U.S.A. gave a big order for manganese, part to be delivered by end of 1925.

Next to the textile industry the greatest hopes are set on the metal production. Under an ambitious programme of iron and steel production a profit of 40 million roubles is talked of.

*Exports and Imports in* 1924–25.[1]

The total value of exports in the year 1924–25 was 557 million roubles.

The values of a few commodities are available:—

| | |
|---|---|
| Grain | 51.3 million roubles. |
| Timber | 62.9 „ „ |
| Bristles and Furs | 75.1 „ „ |
| Naphtha products | 62.7 „ „ |

The total value of imports in 1924–25 was 693.3 million roubles, including:—

| | |
|---|---|
| Grain | 77.9 million roubles. |
| Sugar | 39.7 „ „ |
| Hides and Leather | 29 „ „ |
| Cotton | 122 „ „ |
| Wool | 39.2 „ „ |
| Dyestuffs | 18.6 „ „ |

During the first nine months of 1925 the percentages in value of goods imported into Russia by foreign countries stood at:—

| | | | |
|---|---|---|---|
| U.S.A. | 28.2 | Egypt | 3.8 |
| England | 18.6 | Czecho-Slovakia | 3.5 |
| Germany | 15.5 | Finland | 3 |
| Holland | 5.6 | Sweden | 2.6 |
| Australia | 5.3 | Others | 13.9 |

[1] *Note.*—No later figures are as yet available.—ED.

# CORRESPONDENCE

*(Correspondence is invited on subjects which have been dealt with in the* JOURNAL *or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, but publication of letters will be dependent on the space available in each number of the* JOURNAL.—ED.)

## THE NAVY AND THE PUBLIC SCHOOLS.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—May I be permitted to comment upon "The Navy and the Public Schools," the lecture by the Duke of Montrose reported in the JOURNAL for November? I was unable to be present at the discussion, but should like to mention two points in support of the lecturer.

A boy of thirteen who makes a choice of a profession may not regret it at seventeen, but a good many have done so at thirty. Regret at the latter age is disastrous both to the Service and the individual, and could be in some measure obviated by a later entry. The continued desire at seventeen to go to sea may very well be the natural craving of the schoolboy to attain manhood—or what passes for manhood.

It is asserted that the naval officer who retires, or has to retire, in mid-career is sought after for other positions? I think that such an assertion would indicate either a lack of the experience of looking for work, or else the acceptance of some post incommensurate with the officer's standing. A full college education before entry would not only make a more efficient officer, but would also better his retired position; and the better-educated the officers, the better the Service.

Yours, etc.,
ROGER BURGES,
Commander (Retired).

*(Correspondence is invited on this subject.*—ED.)

## NELSON'S TUTOR.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—May I offer these comments on the article "Nelson's Tutor" in the November issue of the JOURNAL. The relations between Nelson and Lord Hood, on the strength of which (according to his own version of the relations), the writer claims credit for Hood as Nelson's Tutor, do not, I venture to hold, at all bear out the idea. The simplest way of dealing with the writer's assertions, is to quote Nelson's own words in regard to Lord Hood, as given in his published letters. Readers can then judge for themselves.

Take first the paragraph in the JOURNAL, p. 761: "But he had not quite done with the West Indies . . . that young captain, who had never been in a fleet

action for instruction in tactics." Hood, to begin with, never went on leave to England or anywhere, between April, 1782, and June, 1783. Nor is it recorded that he transferred Prince William to the "Albemarle" for any purpose. Nelson himself says in his "Sketch of My Life" that he first met Hood in November, 1782, when the "Albemarle" joined Hood's fleet at Sandy Hook, New York. In a letter of 17th November, to Captain Locker, Nelson says that he "requested him (Hood) to take him (Nelson) with him to the West Indies." Nelson adds that Hood had "honoured me highly by a letter for wishing to go off this station to a station of service and has promised me his friendship."

Writing to Locker on 25th February, Nelson proceeds to say that Hood treated him "as if I was his son" and that he had told Prince William "that if he wished to ask questions relative to naval tactics I could give him as much information as any officer in the fleet." That thought is hardly the same as to say of Hood that "he regarded (Nelson) as the most original tactician of the day." Nelson says nothing of his learning anything from Hood or being "tutored" in any way.

'Peace again declared, Hood and Nelson contrived to see a good deal of each other on shore in the next decade," according to the writer of the article. As to that, Nelson wrote to the Duke of Clarence on 10th December, 1792, as follows: "Respecting my present situation with Lord Hood, I can readily and truly answer. We have not for a long time had any communication with each other. Our familiar correspondence ceased on a difference of opinion. In the Spanish armament, when almost the whole service were called forth, I asked Lord Hood to interest himself with Lord Chatham, that I might be appointed to a ship. His lordship, having declined doing it has prevented my troubling him again for his interest or influence. However, in consideration of our former intimacy, whenever I have gone to London I have hitherto thought it right to leave my name at his Lordship's door. I certainly cannot look on Lord Hood as my friend."

Nelson, on the outbreak of the war with the French Revolution, was appointed by Lord Chatham to the "Agamemnom," but he does not say that he owed it to Hood. After Nelson had been appointed Hood wrote to him, in consequence, apparently, of the ship being one of the fleet intended to accompany Hood to the Mediterranean. "Lord Hood," wrote Nelson, in a letter to Captain Locker on 26th January, 1793, "has been very civil indeed. I think we may be good friends again." On proceeding to the Mediterranean, we have Nelson writing to his wife, on 12th October, 1793, "Lord Hood is now quite as he used to be; he is so good an officer that everybody must respect him."

The two continued after that perfect friends and on close intimacy to the end, but beyond Nelson's outspoken admiration of Hood as an able officer there is no hint in any of his correspondence that he ever considered him as his "tutor." The laudatory expressions that Nelson used in regard to Hood are no stronger than those he used in regard to Howe in his letter after the Nile, nor in several of his letters to St. Vincent. A great deal more could be said to controvert other statements by the writer of the article, but this, I trust, is sufficient on the main point.

Yours, etc.,

EDWARD FRASER.

## "THE BATTLE OF ORTHES."

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—With reference to the coloured frontispiece of our November number, "The Battle of Orthes, February 27th, 1814," surely this is wrongly described as "Wellington's first action on French soil."

There is, I think, no doubt that the Bidassoa was the frontier across which Soult was driven on 2nd August, 1813, and that, except for a sortie, he made no effort to re-enter Spain. Wellington after much hesitation, decided, in September, to invade France—see his letter to Bathurst, Despatches XI, 124. On 7th October, 1813, " the 5th Division and Lord Aylmer's brigade crossed the sands unperceived, a rocket announced that they had crossed the low water channel and stood on French ground."—Maxwell.

Then, and this, I think, clinches the frontier question, Napier (pp. 300 and 301) says: ". . . the castle of St. Sebastian surrendered, and Wellington had even then matured a plan . . . to seize the great Rhune mountain . . . and at the same time to force the passage of the Lower Bidassoa and *establish his left wing in French Territory.*" This crossing seems to have cost some 500 casualties.

Napier refers to the Nivelle, fought on 10th November, 1813, as " the battle of the Nivelle," the allied casualties were about 2,700. The French lost 4,265, including 1,200 to 1,400 prisoners (Napier). I think by the standards of those days it was certainly a " battle."

The actions of the 9th to 13th December in front of Bayonne are referred to as " the crossing of the Nive and battles in front of Bayonne " and also as " the Battle of St. Pierre." The Allies casualties were over 5,000, including five generals wounded. After this battle, Wellington established his headquarters at St. Jean de Luz.

At Orthez the Allied casualties were only about 2,300, including Wellington, who was slightly wounded.

A proclamation was issued by Wellington in October or November, 1813, promising protection to French inhabitants of the occupied territory, and he gave orders to his army that the persons and property of the inhabitants of France were to be respected; this is a further indication that he was on French soil.

Yours, etc.,

E. P. Le Breton,

Lieut.-Colonel, late R.E.

(*Our Correspondent is undoubtedly right; it is curious, however, to find that more than one work of reference in our Library erroneously describes Orthez as Wellington's first battle on French soil. Possibly some confusion on the part of their authors as to the line of the frontier in those days gave rise to the mistake.*—Ed.)

# GENERAL SERVICE NOTES

## IMPERIAL DEFENCE.

THE recent Imperial Conference devoted much time to consideration of Empire Defence.

On 26th October, Mr. Baldwin initiated the discussions by a review of the work and organization of the Committee of Imperial Defence. In the course of this he emphasized the purely advisory and consultative character of this body. He also outlined the chief developments which had taken place since the last Conference, notably the creation of the Chiefs of Staff Sub-Committee and the decision to establish an Imperial Defence College. After a reference to the progress already made and to the further steps to be taken in the development of the naval base at Singapore, Mr. Baldwin mentioned that the pursuance of this policy had been greatly facilitated by the contributions of the Federated Malay States, Hong-Kong, and the Straits Settlements.

The Prime Minister was followed by the Senior Officer of the Chiefs of Staff Sub-Committee (Admiral of the Fleet Earl Beatty) in a survey of the general strategic situation, and by the Secretary of State for India in a summary of the special problems of Indian defence.

The discussions were renewed on 15th November, when statements were made by the Prime Ministers of Canada, the Commonwealth of Australia, New Zealand, and Newfoundland, by Mr. Havenga for the Union of South Africa, by Mr. O'Higgins for the Irish Free State, and by the Maharajah of Burdwan for India.

Meetings also took place at the Admiralty, the War Office, and the Air Ministry, in which the situation from the standpoint of His Majesty's Government in Great Britain was presented in greater detail, and other phases of common interest were considered at a meeting held at the offices of the Committee of Imperial Defence.

### DISPLAYS.

The representatives of the various Governments and other visitors to the Conferences witnessed a naval exercise off Portland, an army mechanical display at Camberley and air demonstrations at Croydon and Cardington.

Apart from their interest in connection with defence, the two latter revealed technical developments in mechanical traction and in aviation which may prove of importance in their application for civilian purposes. The information thus obtained and the opinions exchanged will, it is believed, prove of much practical value in aiding the several Governments of the Empire in the determination of their policies of defence.

## Conclusions of the Conference.

The conclusions reached by the Imperial Conference on the subject of Defence may be summarized as follows:—

1. The Resolutions on Defence adopted at the last session of the Conference are reaffirmed.

2. The Imperial Conference regrets that it has not been possible to make greater progress with the international reduction and limitation of armaments referred to in these Resolutions. It is the common desire of the Governments represented at this Conference to do their utmost in pursuit of this object so far as this is consistent with the safety and integrity of all parts of the Empire and its communications.

3. The Conference recognizes that, even after a large measure of reduction and limitation of armaments has been achieved, a considerable effort will be involved in order to maintain the minimum standard of naval strength contemplated in the Washington Treaty on Limitation of Armaments—namely, equality with the naval strength of any foreign Power. It has noted the statements set forth by the Admiralty as to the formidable expenditure required within coming years for the replacement of warships, as they become obsolete, by up-to-date ships.

4. Impressed with the vital importance of ensuring the security of the world-wide trade routes upon which the safety and welfare of all parts of the Empire depend, the representatives of Australia, New Zealand, and India note with special interest the steps already taken by His Majesty's Government in Great Britain to develop the Naval Base at Singapore, with the object of facilitating the free movement of the Fleets. In view of the heavy expenditure involved, they welcome the spirit of co-operation shown in the contributions made with the object of expediting this work.

5. The Conference observes that steady progress has been made in the direction of organizing military formations in general on similar lines; in the adoption of similar patterns of weapons; and in the interchange of officers between different parts of the Empire; it invites the Governments concerned to consider the possibility of extending these forms of co-operation and of promoting further consultation between the respective General Staffs on defence questions adjudged of common interest.

6. (*a*) The Conference takes note, with satisfaction, of the substantial progress that has been made since 1923 in building up the Air Forces and resources of the several parts of the Empire.

(*b*) Recognizing that the fullest mobility is essential to the effective and economical employment of air power, the Conference recommends, for the consideration of the several Governments, the adoption of the following principle: The necessity for creating and maintaining an adequate chain of air bases and refuelling stations.

(*c*) Impressed with the desirability of still closer co-ordination in this as in all other spheres of common interest, and in particular with the advantages which should follow from a more general dissemination of the experience acquired in the use of this new arm under the widely varying conditions which obtain in different parts of the Empire, the Conference recommends for consideration by the Governments interested the adoption in principle of a system of mutual interchange of individual officers for liaison and other duties, and of complete air units, so far as local requirements and resources permit.

7. The Conference recognizes that the defence of India already throws upon the Government of India responsibilities of a specially onerous character, and takes note of their decision to create a Royal Indian Navy.

8. The Conference notes with satisfaction that considerable progress in the direction of closer co-operation in Defence matters has been effected by the reciprocal attachment of naval, military and air officers to the Staff Colleges and other technical establishments maintained in various parts of the Empire, and invites the attention of the Governments represented to the facilities afforded by the new Imperial Defence College in London for the education of officers in the broadest aspects of strategy.

9. The Conference takes note of the developments in the organization of the Committee of Imperial Defence since the session of 1923. It invites the attention of the Governments represented at the Conference to the following resolutions adopted, with a view to consultation in questions of common defence, at a meeting of the Committee of Imperial Defence held on the 30th May, 1911, in connection with the Imperial Conference of that year :—

" (1) That one or more representatives appointed by the respective Governments of the Dominions should be invited to attend meetings of the Committee of Imperial Defence when questions of naval and military [the words ' and air ' would be required to bring the resolution up to date] defence affecting the Oversea Dominions are under consideration.

" (2) The proposal that a Defence Committee should be established in each Dominion is accepted in principle. The Constitution of these Defence Committees is a matter for each Dominion to decide."

## IMPERIAL DEFENCE COLLEGE.

The Imperial Defence College opened for the first course on 17th January. The premises are at 9, Buckingham Gate. The names of the officers appointed to the Staff of Vice-Admiral Sir Herbert Richmond, K.C.B., the first Commandant, were announced in the last JOURNAL.

It is understood that the post of Commandant will be filled successively by senior officers of the Navy, Army and Air Force, each holding the appointment for two years.

The following are the names of the students attending this year's course :—

*Navy.*—Captain J. C. Tovey, D.S.O. ; Captain R. Leatham ; Captain H. R. Moore, D.S.O. ; Captain E. L. S. King, M.V.O. ; Captain A. F. Pridham ; Major and Bt. Lieutenant Colonel R. D. Ormsby, C.B.E. (Royal Marines).

*Army.*—Major and Bt. Lieutenant-Colonel R. H. Haining, D.S.O. (Royal Artillery); Major and Bt. Lieutenant-Colonel A. F. Brooke, D.S.O. (Royal Artillery); Major and Bt. Lieutenant Colonel C. G. Ling, D.S.O., M.C. (Royal Engineers); Major and Bt. Colonel W. H. Gribbon, C.M.G., D.S.O. (the King's Own Royal Regiment); Major and Bt. Colonel C. G. Liddell, C.M.G., C.B.E., D.S.O. (the Leicestershire Regiment); Major and Bt. Lieutenant-Colonel A. G. C. Dawnay, C.B.E., D.S.O. (Coldstream Guards).

*Air Force.*—Wing Commander R. E. C. Peirse, D.S.O., A.F.C.; Wing Commander W. S. Douglas, M.C., D.F.C.; Wing Commander E. L. Tomkinson, D.S.O., A.F.C.; Squadron Leader G. C. Pirie, M.C., D.F.C.

*India.*—Colonel E. de Burgh, D.S.O., I.A.; Major and Bt. Lieutenant-Colonel C. J. E. Auchinleck, D.S.O., I.A.

*Dominions.*—CANADA: Commander C. T. Beard, R.C.N.; Brigadier-General A. G. L. McNaughton, C.M.G., D.S.O. AUSTRALIA: Commander C. J. Pope, R.A.N.; Wing Commander S. J. Goble, C.B.E., D.S.O., D.S.C. NEW ZEALAND: Major W. I. K. Jennings, D.S.O. (New Zealand Staff Corps).

*Civil Service.*—Mr. C. F. M. N. Ryan, D.S.O., M.C., Principal, H.M. Treasury; Mr. G. L. M. Clauson, Principal, Colonial Office.

## ROYAL TOURNAMENT 1927.

The Royal Tournament for this year will be held at Olympia, Kensington, from Thursday, 19th May, to Saturday, 4th June, inclusive.

# NAVY NOTES

## GREAT BRITAIN.

### Imperial Mission of T.R.H. The Duke and Duchess of York in H.M.S. "Renown."

H.M.S. "Renown," commanded by Captain N. A. Sullivan, left Portsmouth on 6th January for a voyage round the world; the principal object of the tour is to enable Their Royal Highnesses to perform the ceremony of opening Canberra, the new Federal capital of Australia.

The "Renown" is going west-about *via* the Panama Canal and *en route* will be calling at Jamaica and New Zealand ports. Altogether, a month will be spent in the latter Dominion before arriving in Australia. On the homeward voyage the route will take the Royal Party to Mauritius and through the Suez Canal. In passing through the Mediterranean the ship will call at Malta and Gibraltar. The "Renown" is due back at Portsmouth on 27th June next.

The official programme of the tour is as follows:—

Las Palmas (Canary Islands), 10th/11th January; Kingston (Jamaica), 20th/23rd January; Colon (Panama Canal), 25th January; Panama, 26th January; Mukihiva (Marquesas Islands), 8th/9th February; Suva (Fiji), 17th/19th February; Auckland, 22nd/23rd February; Russell (Bay of Islands), 24th/25th February; Auckland, 26th February/3rd March; Wellington, 5th/9th March; Picton, 9th/19th March; off Patterson Inlet (Stewart Island), 21st/22nd March; Sydney, 26th March/14th April; Hobart, 16th/20th April; Melbourne, 21st April/12th May; Fremantle, 18th/23rd May; Port Louis (Mauritius), 1st/4th June; Great Hanish Island, 11th June; Suez, 15th June; Port Said, 16th June; Malta, 18th/20th June; Gibraltar, 23rd June; arrive Portsmouth, 27th June.

### Naval Activities in China.

The British Government, having announced their intention of taking the necessary precautions to safeguard British lives in China, considerable naval reinforcements have been despatched to the Far East during the past quarter. These include:—

*Cruisers.*—"Enterprise" and "Emerald," detached from the East Indies Station, arrived at Shanghai and Hong Kong respectively on 1st January.

"Caradoc," from the Third Cruiser Squadron, Mediterranean, arrived at Hong Kong on 9th January.

"Durban," after recommissioning at Devonport, returned to Hong Kong on 22nd January.

The First Cruiser Squadron, Mediterranean, under the command of Rear-Admiral W. H. D. Boyle, C.B., in H.M.S. "Frobisher," with the "Delhi," "Dragon" and "Danæ" left Malta for China on 19th January; the "Dauntless," refitting, is following later.

*Aircraft-carriers.*—" Hermes," detached from Mediterranean, arrived at Hong Kong on 11th October.

" Argus," newly commissioned at Portsmouth, left for China on 1st February.

*Destroyers.*—The Third Flotilla, consisting of the flotilla-leader " Keppel " and eight destroyers, having been detached from the Mediterranean, arrived at Hong Kong on 23rd October, when most of its units were sent into the Yangtse.

The Eighth Flotilla, which had been in reserve with two-fifth complements at South Queensferry, was sent to Chatham and Sheerness for docking in December last. The complements are being brought up to full strength and the flotilla left for China early in February.

The Fourth Flotilla, Mediterranean, is standing by at Malta.

The " Wanderer " and " Wolverine," in reserve at Malta, are being commissioned to replace the " Wolsey " and " Woolston " in the Third Flotilla.

*River Gunboats.*—The " Aphis " and " Ladybird," in reserve at Malta, are being commissioned at that port for service in China. They are sailing under escort of the destroyers " Wanderer " and " Wolverine."

*Auxiliary Vessel.*—The hospital-ship " Maine," Mediterranean, is *en route* for China, on completion of a refit at Malta.

ROYAL MARINE REINFORCEMENTS.—A battalion of Royal Marines, 1,000 strong, under the command of Lieutenant-Colonel George Carpenter, O.B.E., D.S.C., drafted from the three Divisions at Chatham, Portsmouth and Plymouth, embarked in the hired transport " Minnesota," at the latter port on 26th January, for China.

NAVAL FORCES IN CHINA.—A complete list of the British naval forces in China at the time of going to press will be found under the International Situation, page 169 of this JOURNAL.

CHANGE OF COMMANDER-IN-CHIEF.—Admiral Sir Edwyn S. Alexander-Sinclair, K.C.B., M.V.O., whose tactful handling of the difficult situations which arose during 1926, is generally recognised, handed over the command in China, on his selection to be Commander-in-Chief at the Nore, in the first week of January, when Vice-Admiral Sir Reginald Y. Tyrwhitt, K.C.B., D.S.O., D.C.L., succeeded him. Sir Reginald arrived at Shanghai on 10th January, in H.M.S. " Despatch," from Hong Kong, and went up in a gunboat to Hankow, where the British Concession had just been evacuated.

THE YANGTSE.—Throughout the quarter, the British gunboats in the Yangtse have been under the command of Rear-Admiral John Ewen Cameron, C.B., M.V.O., Senior Naval Officer, and his flagship, the " Bee," has been at Hankow. There was some trouble at this port after the advance of the Cantonese Army, and owing to the threatening attitude of the mob, it was decided by the British authorities on the spot to withdraw the small naval and marine detachments, which was done in the first week of January. On the 3rd of that month, landing parties had been stoned by the Chinese rioters, but showed admirable discipline and restraint, although an officer, Lieutenant T. Ellis, of the " Bee," and two men were wounded.

## LOSS OF THE " VALERIAN."

While the last issue of the JOURNAL was in the press the Royal Navy sustained its most severe loss since the war, so far as the destruction of life was concerned,

when H.M.S. " Valerian " and most of her crew perished in a hurricane off Bermuda. The vessel was on her way back from the Bahamas, whither she had been carrying relief to the inhabitants stricken in an earlier storm. She was caught in the hurricane on 22nd October, about eighteen miles south of Bermuda, at 7.30 a.m., and sank about 1 p.m. Four officers and eighty ratings lost their lives, there being only nineteen survivors.

The " Valerian " was one of the " Flower " Class sloops built in the war for minesweeping and convoy duties, and was completed in February, 1916. She was re-commissioned for the North America and West Indies Station in December, 1920, and had thus been nearly six years out there. Commander W. A. Usher, a navigation specialist, was appointed to her in command on 12th February, 1925. He and the navigating officer, Lieutenant F. G. Hughes, were among those picked up from the water; but Surgeon-Lieutenant C. Joiner, Sub-Lieutenant R. B. Summerford, Commissioned Engineer W. H. Bellis, and Gunner J. W. Asquith were among the victims.

A court-martial on the survivors was held at Bermuda on 1st November, and found that everything possible was done for the safety of the ship, that all were at their posts until the last, and that naval traditions were maintained by their exemplary conduct. Commander Usher's report showed that steerage way could not be secured with the maximum engine-power at his disposal, and a series of squalls followed the passage through the centre of the cyclone. After heeling over 70 degrees, and righting again, the " Valerian " was thrown on her beam ends by further squalls, and only the watch on deck had any chance of escape. The survivors were in the water for about twenty-one hours before being picked up by H.M.S. " Capetown."

On 24th November, it was announced that a similar ship, H.M.S. " Heliotrope," would be commissioned at Portsmouth for service on the North America and West Indies Station, in place of the " Valerian." The vessel was commissioned on 15th December, by Commander A. B. A. Baker, D.S.O.

### The Flag List.

The First Sea Lord.—On 4th November, it was announced by the Admiralty that Admiral of the Fleet Lord Beatty, who had been First Sea Lord and Chief of the Naval Staff since November, 1919, had expressed his desire to be allowed to resign office on completing the period of seven years named in Article 243 of the King's Regulations as the maximum for which an officer will be retained on the Board of Admiralty, except in special circumstances. He has, however, consented at the request of the First Lord, to defer his resignation.

New Commands.—On 11th December, following the precedent of earlier years, the Admiralty announced a number of changes in high commands and posts for about six months ahead. The list was as follows :—Vice-Admiral John D. Kelly, C.B., to be Vice-Admiral Commanding the First Battle Squadron and Vice-Admiral Second-in-Command, Mediterranean Fleet, in succession to Vice-Admiral Sir Michael H. Hodges, K.C.B., C.M.G., M.V.O., to date 30th April, 1927. Vice-Admiral Kelly will assume command about 30th May. Rear-Admiral William W. Fisher, C.B., C.V.O, to be a Lord Commissioner of the Admiralty and Chief of Supplies and Transport, in succession to Vice-Admiral John D. Kelly, C.B., to date 30th April. Rear-Admiral Frederic C. Dreyer, C.B., C.B.E., to be Rear-Admiral Commanding the Battle Cruiser Squadron, Atlantic Fleet, in succession to Vice-Admiral Cyril T. M. Fuller, C.B., C.M.G., D.S.O., to date 21st May, 1927.

Rear-Admiral Alfred D. P. R. Pound, C.B., to be a Lord Commissioner of the Admiralty and Assistant Chief of the Naval Staff, in succession to Rear-Admiral Frederic C. Dreyer, C.B., C.B.E., to date 21st April, 1927. Rear-Admiral Frank Larken, C.B., C.M.G., to be Rear-Admiral Commanding the Second Cruiser Squadron, Atlantic Fleet, in succession to Rear-Admiral W. A. H. Kelly, C.B., C.M.G., M.V.O., to date 15th May, 1927. Rear-Admiral Eric J. A. Fullerton, C.B., D.S.O., M.A., to be Naval Secretary to the First Lord of the Admiralty, in succession to Rear-Admiral Frank Larken, C.B., C.M.G., to date 1st April, 1927. Rear-Admiral Percival H. Hall-Thompson, C.B., C.M.G., to be Rear-Admiral Commanding Third Battle Squadron, Atlantic Fleet, in succession to Rear-Admiral Roger R. C. Backhouse, C.B., C.M.G., to date 5th May, 1927.

NEW ADMIRALS SUPERINTENDENT.—The Admiralty announce the following appointments of Admirals Superintendent: Rear-Admiral Cyril S. Townsend, C.B., to be Rear-Admiral-in-Charge, Gibraltar and Admiral Superintendent of H.M. Dockyard there, in succession to Rear-Admiral Richard G. A. W. Stapleton-Cotton, C.B., C.B.E., M.V.O., to date 12th March. At Devonport, Rear-Admiral Oliver Backhouse, C.B., will succeed Rear-Admiral L. C. S. Woollcombe, C.B., M.V.O., on 1st March. At Portsmouth, Rear-Admiral L. A. B. Donaldson will relieve Rear-Admiral B. S. Thesiger, C.B., C.M.G., on 13th May.

R.N. COLLEGE, GREENWICH.—CHANGE OF TITLE OF FLAG OFFICERS.—The title " President and Flag Officer Commanding the R.N. College, Greenwich " is abolished and the title of the Flag Officer holding this post will in future be " President of the R.N. College, Greenwich," with the addition of the title of " Vice-Admiral Commanding the R.N. War College," which will be used when matters directly affecting the War College are in question, and will vary according to the actual rank of the Flag Officer appointed to the post.

FLAG LIST CHANGES.—It was announced by the Admiralty on 5th November that Admiral Sir Hugh H. D. Tothill, K.C.B., K.C.M.G., K.C.V.O., had been placed on the retired list, at his own request, to date 25th October. In consequence, the following promotions took effect from the same date :—Vice-Admiral Sir James A. Fergusson, K.C.B., K.C.M.G., to be Admiral; Rear-Admiral John D. Kelly, C.B., to be Vice-Admiral; Captain Arthur J. Davies, A.D.C., R.N. (Commodore, First Class), to be Rear-Admiral. The following promotions were also made on the Retired List, to date 25th October :—Vice-Admirals Sir Drury St. A. Wake, K.C.I.E., C.B.; S. St. J. Farquhar; H. Chatterton; the Hon. Stanhope Hawke; E. H. Moubray; and H. J. O. Millar to be Admiral. Rear-Admirals T. W. B. Kennedy, C.M.G.; C. D. Carpendale, C.B.; A. P. Davidson, D.S.O.; H. M. K. Betty; F. M. Leake, C.B., D.S.O.; H. J. T. Marshall, and J. C. T. Glossop, C.B., to be Vice-Admirals.

On 13th November, it was announced that Admiral the Hon. Sir Victor A. Stanley, K.C.B., M.V.O., had been placed on the Retired List at his own request, to date 8th November. In consequence, Vice-Admiral Sir Lewis Clinton-Baker, K.C.B., K.C.V.O., C.B.E., was promoted to be Admiral; Rear-Admiral Sir Henry T. Buller, K.C.V.O., C.B., A.D.C., to be Vice-Admiral; and Captain Claude Seymour, D.S.O., A.D.C., to be Rear-Admiral. Rear-Admiral Seymour was placed on the Retired List, at his own request, to date 9th November, in consequence of which, Captain the Hon. Arthur B. S. Dutton, C.M.G., A.D.C., was promoted to Rear-Admiral. The following changes were made on the Retired List, to date 8th November :—Vice-Admirals T. W. Kemp, C.B., C.M.G., C.I.E.; B. M. Chambers, C.B.; Sir W. Reginald Hall, K.C.M.G., C.B., D.C.L., M.P.; Sir Henry H. Bruce, K.C.B., M.V.O.; C. Greatorex, C.B., M.V.O.; G. C. Cayley, C.B.; Sir

Allan F. Everett, K.C.M.G., K.C.V.O., C.B.; Sir Henry B. Pelly, K.C.V.O., C.B.; J. Nicholas and Sir A. Thomas Hunt, K.C.B., C.S.I., to be Admirals; Captain S. R. Miller to be Rear-Admiral.

The following flag promotions, consequent on the death, on 23rd January, of Vice-Admiral Sir Maurice Swynfen FitzMaurice, were announced by the Admiralty, with effect from 24th January: Rear-Admiral D. M. Anderson, C.B., C.M.G., M.V.O., to be Vice-Admiral in H.M. Fleet. Captain W. M. Kerr, C.B.E., A.D.C., to be Rear-Admiral in H.M. Fleet. Consequent on the above, the following promotion on the Retired List has been made: Rear-Admiral D. B. Crampton, C.B.E., D.S.O., M.V.O., to be Vice-Admiral, to date 24th January.

NON-SERVICE AND RETIREMENT.—A Fleet Order of 24th December, 1926 stated that for the purpose of the rule that flag officers promoted while serving will not count their service in the new rank to save them from compulsory retirement for non-service in that rank where the appointment is one definitely assigned to an officer of the lower rank, the Board have decided that the following appointments are to count as Rear-Admirals' appointments: Dockyards at Chatham, Portsmouth, Devonport, Malta and Gibraltar; Cruiser Squadrons (but not the Battle-Cruiser Squadron), Rear-Admirals in Battle Squadrons (except the Third Battle Squadron); Rear-Admiral and Commanding Officer, Coast of Scotland; Rear-Admiral (D); Rear-Admiral and Senior Naval Officer, Yangtse; and Rear-Admiral (S); and such other appointments as, in the opinion of the Board, it may become necessary to specify. This will not necessarily preclude officers of higher rank being employed, but officers promoted while serving will not ordinarily be reappointed in the higher rank.

## PERSONNEL.

ENGINEER-IN-CHIEF AND MEDICAL DIRECTOR-GENERAL. — The following revised regulation has been approved for the retirement of officers who may now or hereafter hold the position of Engineer-in-Chief of the Fleet or Medical Director-General of the Navy:—" To be retired on ceasing to hold the appointment, or, if not previously superseded in the appointment, to vacate it and be retired on attaining the age of sixty-five."

PROMOTION ZONES EXTENDED.—On 15th October, it was notified that the zones of promotion for the half-yearly selections in December next and until further orders would be: Commander, four to eight years' seniority (instead of five to seven and a half years), on the date of selection; Lieutenant-Commander, two to six years' seniority (instead of two and a half to six years), on the date of selection.

NEW RETIREMENT SCHEME FOR LIEUTENANT-COMMANDERS.—A Fleet Order of 17th December gives the following particulars of a new scheme for the retirement of a small number of the older officers of the rank of Lieutenant-Commander:—

" Owing to the existing surplus on the Lieutenant-Commanders' List, and the certainty that, unless that surplus is removed, long periods of unemployment will be necessary for the more senior officers, the Board have decided that Lieutenant-Commanders, R.N., other than those promoted from Warrant rank, but including those promoted from Mate, and Officers on the Supplementary List, who will have attained the age of compulsory retirement (45) by 31st December, 1931, may, at the discretion of the Admiralty, be permitted to retire voluntarily forthwith, with the rate of retired pay for which they would be eligible under the ordinary

regulations, if they remained on the active list and were employed continuously until reaching the age of forty-five.

"Officers on unemployed or half-pay will be regarded, for this purpose, as continuously employed as from the date of their retirement under this Order.

"All applications must be submitted within a period of six months from the date of this Order. Those of Officers serving should be forwarded through the usual channels, accompanied by the certificate prescribed by Article 1,112 of the King's Regulations and Admiralty Instructions.

"The Admiralty reserve the right to withdraw these terms at any time, without notice, as soon as the requisite reduction of the list has been effected, and also the right of withholding permission from any Officer to retire under this Order, and they may direct that any Officer is to be retired under any other regulations which are applicable to his case."

SHOTLEY TRAINING ESTABLISHMENT.—In future H.M. Training Establishment, Shotley, will be known as H.M.S. "Ganges," the present title being abandoned. The postal address is H.M.S. "Ganges," Harwich.

KING'S REGULATIONS.—The new edition of Volumes I and II of the King's Regulations and Admiralty Instructions was issued to the Fleet during the quarter. The new volumes are the result of the Committee on the subject appointed in 1924 under Admiral Sir Hugh Tothill.

UNIFORM AMENDMENTS.—There was also issued in November from H.M. Stationery Office, price 6d., a schedule of the alterations to the Uniform Regulations for Officers of the Fleet, styled "Amendment No. 1." The amendment dealt with the wearing of decorations and medals, distinction marks of branch, epaulette devices, chaplains' dress, and the badge of officers attached to the R.A.F. for duty in the Fleet Air Arm.

ADVANCES OF PAY.—By an Order in Council of 5th November, 1926, the Admiralty are authorized to grant advances of pay to officers on discharge from H.M. ships on foreign stations for passage home. No advance is to be granted to an officer not entitled to full pay during passage, and the amount of the advance shall in no case exceed the pay due to the officer on the date of his arrival in England.

PRIZE MONEY ACCOUNTS.—The period during which prize money accounts are kept open has been reduced by Order in Council from forty to ten years. Awards which had been over ten years in distribution on 31st December, 1926, were finally closed as from that date.

ROYAL NAVAL BENEVOLENT SOCIETY.—The Committee of the Royal Naval Benevolent Society desire to draw the attention of Naval Officers of wardroom rank and above to the advantages obtainable from membership of the Society, particulars of which are set out in their advertisement on page 28 of the Navy List Advertiser.

This Society is of very old standing, having been originally instituted in 1739, and incorporated by Royal Charter in 1838, but from the comparatively small number of applications for assistance received from eligible candidates, it is clear that its aims and the advantages to be derived from membership cannot be sufficiently well known to the Naval Officers concerned.

Full particulars can be obtained from the Secretary, 18, Adam Street, Adelphi, W.C. 2.

## Material.

New Cruisers.—The Fairfield Shipbuilding and Engineering Co., Ltd., in December received the contract for the hull and machinery of the second cruiser of the 1926-27 programme, to be built in the private yards, the other having been ordered from the Palmers Company in October. Messrs. Cammell, Laird & Co., Ltd., have received an order for the main and auxiliary machinery for the cruiser to be built at Portsmouth Dockyard.

Submarine Contracts.—Contracts were awarded in November for the submarines of the 1926-27 programme, six in number, of which one is to be built at Chatham Dockyard. Messrs. Vickers, Ltd., received the order for three vessels and Messrs. Beardmore & Co., Ltd., for the other two. The submarines will be of the "O" type, the first of which, H.M.S. " Oberon," Commander G. D'Oyly-Hughes, D.S.O., D.S.C., carried out trials during the past quarter.

Gunboat Names.—For the gunboats of the 1925-26 programme, ordered from Messrs. Yarrow & Co., Ltd., the Admiralty have selected names of sea birds, viz.: " Gannet," " Petrel," " Seamew " and " Tern." The first three have been in use for small craft of the Royal Navy since 1800, 1777 and 1857 respectively, but the name of " Tern " has not before been given to a regular man-of-war.

Battleships Scrapped.—By 1st December, the battleships " Ajax," " King George V " and " Thunderer " were paid off into dockyard control and prepared for sale, in accordance with the provisions of the Washington Treaty that this was to be done four years from the laying down of their replacement ships, the " Nelson " and " Rodney." A fourth ship, the " Centurion," will be utilised as a target vessel.

Dockyard Staffs.—Figures prepared for the 1927 issue of *Brassey's Annual* show that, despite the closing of Pembroke and Rosyth, the total of workpeople in the dockyards in 1926 represented 95 per cent. of that in July, 1914, whereas naval personnel represented only 69 per cent. Officers and men had come down from 146,047 in 1914 to 100,625 in 1926, a reduction of 45,422; dockyard staffs from 53,550 in 1914 to 50,898 in 1926, a reduction of 2,652.

## Exercises and Cruises.

Atlantic Fleet.—Having concluded its Northern exercise programme (referred to in the last Journal) towards the end of October, the Atlantic Fleet, under Admiral Sir Henry Oliver went down to Portland for the Dominion Premiers' inspection. The squadrons and flotillas afterwards remained at Portland until 2nd December, when they dispersed to home ports for Christmas leave. First parties were sent away from 6th to 21st December, and second parties from 21st December to 5th January. The Fleet was ordered to be based on Gibraltar, as in previous years, from the end of January to the middle of March, and combined exercises with the Mediterranean Fleet are to be carried out from that port between 2nd and 11th March.

Submarine Collision.—During exercises in the English Channel on 7th December, submarines " H47 " and " H32," attached to the " Vulcan," came into collision, the former ramming the latter and starting a few plates. The Admiralty announced that the damage caused was negligible.

MEDITERRANEAN FLEET CRUISES.—Between 26th September and 25th October, the Mediterranean Fleet ships made independent cruises to Alexandria, Famagusta, Port Said, Volo, Jaffa, Marmarice, Limasol, and other places in the Eastern Mediterranean. H.M.S. "Danæ" also went through the Dardanelles and Marmora to Galatz and Varna, and the "Dauntless" to Burghas and Constanza.

On 10th January, the Mediterranean Fleet, under Admiral Sir Roger Keyes, left Malta on a winter cruise, during which it visited Greek ports and Alexandria. The visit to Phaleron Bay from 13th January was very popular with the Greeks, as some two and half years had elapsed since the Fleet was last seen there.

VISIT TO DURBAN.—On her way back to the China Station, after recommissioning at home, the cruiser "Durban," Captain G. L. Coleridge, paid a visit to her name port, the first she had made, from 15th to 23rd December. This cruiser is the first British man-of-war to bear the name of Durban.

IN INDIAN WATERS.—The Fourth Cruiser Squadron, consisting of the "Effingham," "Emerald," and "Enterprise," left Trincomalee on 2nd November, for a cruise to Indian waters, during which Bombay, Karachi and Calcutta were to be visited, and the "Effingham," flying the flag of Vice-Admiral Ellerton, was afterwards to go to the Persian Gulf. In December, the "Enterprise" and "Emerald" were withdrawn from this cruise to proceed to the China Station, and the "Effingham," instead of going to the Gulf, cruised in the Bay of Bengal.

## ORGANIZATION AND DISTRIBUTION.

BATTLESHIP EXCHANGE.—The battleship "Resolution" was recalled from service as flagship of the Rear-Admiral First Battle squadron, Mediterranean, and arrived at Portsmouth on 25th November. H.M.S. "Royal Oak" became flagship temporarily, but on 11th December, the "Royal Sovereign," Captain W. M. James, C.B., which had been withdrawn from the Atlantic Fleet, left Portsmouth to replace the "Resolution" in the Mediterranean. The last-named ship is to undergo an overhaul.

RED SEA SLOOP.—H.M.S. "Dahlia," after temporary duty as R.N.V.R. drillship at Newport, left England on 9th November to replace the "Cornflower" in the Red Sea Division. The transfer took place at Malta early in December, the "Cornflower" returning home for survey.

RESERVE PARENT SHIPS.—On the cruiser "Canterbury" being required for duty in the Atlantic Fleet, the monitor "Marshal Soult" became, from 11th November, the ship of the Senior Officer, Reserve Fleet, The Nore; just as the monitor "Erebus" had replaced the battleship "Thunderer" in a similar capacity at Devonport. In 1924, there was a battleship as Senior Officer's ship at each port, the "Ajax" at Sheerness, "Centurion" at Portsmouth, and "Thunderer" at Devonport, but by the end of 1926 all armoured ships had disappeared from the Reserve Fleet, and only one cruiser was utilised as flagship, H.M.S. "Weymouth."

SUBMARINE CHANGES.—The Second Submarine Flotilla, composed of six boats of the "L" type, left Malta on 26th October, for Devonport, and for some three months the Mediterranean Fleet was without any submarines. On 14th January, the First Submarine Flotilla left Chatham, after refit, to replace the Second Flotilla. The First Flotilla will eventually consist of submarines, "X1," "K26" and the "L" boats Nos. 16, 18, 21, 23 and 26.

COASTAL MOTOR BOATS.—The coastal motor boat base at Haslar was re-opened on 1st October, after being closed for six months, and it was subsequently decided that the base should be renamed H.M.S. "Hornet." The C.M.B. of that name, formerly No. 102, was commissioned as a tender to the "Dolphin" on 13th November.

## THE FLEET AIR ARM

H.M.S. "ARGUS."—After a long refit, the aircraft-carrier "Argus" was commissioned on 23rd November for trials. On 21st December, a reserve crew joined her prior to commissioning for service in the Atlantic Fleet, under Captain A. R. Palmer, late of H.M.S. "Defiance." On 1st February she left Portsmouth for China.

AEROPLANE DISASTERS.—An Avro Bison Fleet spotter biplane of No. 423 Flight, attached to H.M.S. "Hermes," failed to return to Malta from a flight on 21st October, and on a search being made wreckage was found in the sea. The last heard from the machine was that it had engine trouble and was making a forced landing. Lieutenants Hugh Nelson Lay, Joseph E. S. Anderson, and Henry L. Carslake, and Telegraphist R. W. Gibbs, lost their lives. Lieutenant Lay had qualified as a pilot, Lieutenant Carslake as an observer, and Lieutenant Anderson belonged to H.M.S. "Coventry," and had volunteered to make a flight.

On 27th January, Flying-Officer Arthur Sattin, R.A.F., the sole occupant of a Fairey Flycatcher biplane (fleet fighter), was drowned as the result of an unsuccessful attempt to land on the deck of the aircraft-carrier "Furious."

On 28th January, Lieutenant G. T. Campbell, R.N., flying a Blackburn Dart from the same ship, was involved in a similar accident and was drowned. H.M.S. "Furious" was off the coast of Portugal at the time when these two accidents occurred.

COURSES DURING 1927.—The Admiralty announce that the dates of the beginning of courses for candidates for the Fleet Air Arm in 1927 are 4th January, 19th April, 2nd August, and 15th November.

LEAVE.—The leave of Officers attached to the Royal Air Force and Naval Observer Officers serving in the Fleet Air Arm, will be administered as follows:—

(i) When serving under a definite posting to a Royal Air Force establishment, under Royal Air Force rules.

(ii) When serving under an appointment to ship's books, under Royal Naval rules, provided that—

(*a*) If an officer during the period of his appointment to a home ship is transferred to Royal Air Force discipline, he will come under Royal Air Force leave rules during the period of such transfer. Such periods under Royal Air Force discipline will not be included in the period of service in respect of which a balance of home service leave is allowed on finally vacating the appointment to the ship, and leave taken during such periods will not be included in the calculation of any such balance of leave.

(*b*) If the officer during the period of his appointment to ship's books abroad is transferred to Royal Air Force discipline, he will come under Royal Air Force *local* leave rules during the period of such transfer, which period, however, will count for purposes of foreign service leave.

VOLUNTEERS FOR TELEGRAPHIST AIR GUNNERS.—A Fleet Order calls for a limited number of volunteers from the W/T branch to undergo the course for Telegraphist Air Gunner. Extra pay is allowed to selected ratings at 1s. a day during preliminary training and afterwards at 2s. a day whilst detailed for these duties.

(*See also Air Notes, page 222.*)

## ROYAL MARINES.

NEW YEAR HONOURS.—Lieutenant-General A. R. H. Hutchison, C.B., C.M.G., D.S.O., Adjutant-General Royal Marines, has been created a K.C.B. (Military).

RETIREMENTS.—Colonel 2nd Commandant H. D. O'Sullivan, C.B.E., retired 31st October, 1926, at his own request, to facilitate promotion of younger officers. Lieutenant-General Picton Phillipps, C.B., C.M.G., M.V.O., retired 3rd December, 1926, at his own request.

PROMOTIONS.—The following promotions have been announced during the past quarter:—Lieutenant-Colonel G. L. Raikes, C.B., D.S.C., to Colonel 2nd Commandant, *vice* O'Sullivan, 3rd December, 1926. Major-General G. J. H. Mullins, C.B., to Lieutenant-General, *vice* Picton Phillipps. Colonel Commandant R. H. Morgan, C.B.E., A.D.C., to Major-General, *vice* Mullins, 3rd December, 1926. Colonel 2nd Commandant P. Molloy, to Colonel Commandant, *vice* Morgan, 3rd December, 1926. Lieutenant-Colonel R. V. T. Ford, C.B.E., to Colonel 2nd Commandant, *vice* Molloy, and remain supernumerary. Lieutenant-Colonel F. H. Griffiths, to be Colonel 2nd Commandant, *vice* Ford, 3rd December, 1926.

NEW A.D.C.—H.M. The King has been pleased to appoint Colonel Commandant R. C. Temple, C.B., O.B.E., an A.D.C.

H.M.S. "RENOWN."—The R.M. Detachment under the command of Major T. L. Hunton, O.B.E., was increased to 193, including an R.M. Band of 36 from R.N. School of Music and 14 buglers. At the end of the Great War, the officers, R.M.L.I. presented to each R.M. Division and Depot, R.M., Deal, eight silver bugles in memory of their brother officers who fell in the war. Two silver bugles from each Division and the Depot, R.M., have been loaned by the officers to H.M.S. "Renown" during the Royal Cruise.

THE DUKE AND THE CORPS.—Captain H.R.H. the Duke of York, R.N., was the principal guest at the thirteenth annual dinner of the Royal Marines Old Comrades' Association (London), on 23rd October, when Lieutenant-Colonel W. P. Drury presided. The Duke said that during the years he served in the Navy he learned to know many of the Marines, and was very proud to count some of them as his personal friends.

RELATIVE RANK.—An Order in Council made on 5th November, 1926, provides that the allowances payable to officers of the Royal Marines prior to 6th February, 1925, shall remain unaffected by the changes in their relative rank therein made. The latter order was that which provided that Royal Marine officers were to rank at all times in accordance with their rank in the Royal Marines ashore. They had formerly taken relative rank with naval officers when embarked.

MINIATURE RIFLE SHOOTING.—On Tuesday, 21st December, 1926, at the Duke of York's Headquarters, Chelsea, General Sir George Milne, G.C.M.G., K.C.B., D.S.O., Chief of the Imperial General Staff, presented to the Depot Company,

R.M. Cadet Corps, H.M. The King's Shield and eight silver medals and to the Chatham Company, R.M. Cadet Corps, eight bronze medals. It is of interest that this is the eighth occasion that H.M. The King's Shield, presented in 1911, has been won by the Depot Company, R.M. Cadet Corps.

Admiral of the Fleet, Earl Jellicoe, G.C.B., O.M., G.C.V.O., Chairman of the National Rifle Association, presented medals of honour and the Lord Roberts (Great Britain) Trophy to the Depot Company, R.M. Cadet Corps. The Sir Charles Warren Shield was re-presented to the Depot Company, R.M. Cadet Corps, in the absence, through illness, of the donor, by Major General Sir Lionel Stopford.

HISTORICAL RECORDS OF R.M. FORCES.—Volume III of "Britain's Sea Soldiers," by General Sir H. E. Blumberg, K.C.B., has now been published. Intending subscribers should communicate with the Hon. Treasurer, "Britain's Sea Soldiers," Depot, R.M., Deal.

Volume I of Colonel L. Edye's book, "The Historical Records of R.M. Forces, 1664-1701," was published in 1893. The author, who died in 1922, completed a second volume dealing with the period 1702-1705. This volume, which was sent from Colonel Edye's home in Canada to England towards the end of the war was lost, as the ship bringing it over was torpedoed by a German submarine.

Colonel C. Field, R.M.L.I. (retired), the author of Volumes I and II of "Britain's Sea Soldiers," came into possession of various notes and a rough MS, of the lost volumes, and is endeavouring to arrange the publication of this work, which is of interest not only to the Corps of Royal Marines, but also to the 4th King's Own, 1st Battalion East Surrey Regiment, 1st Battalion D.C.L.I., and 1st Battalion East Lancashire Regiment, for these battalions are the direct descendants of the Marine Regiments, which participated in the operations which are set forth in much detail in this volume.

Intending subscribers should communicate with Colonel C. Field, The Gate House, Gateacre, Liverpool.

ROYAL MARINES PRIZE ESSAY.—See page 59 of this JOURNAL.

## ROYAL NAVAL RESERVE.

NEW BILL.—The Naval Reserve (Officers) Bill, the object of which is to remove an anomaly under which Naval Reserve officers have suffered in regard to payment of disability allowances, was read a second time on 19th November and passed through all its stages without opposition. Mr. Davidson, Parliamentary Secretary to the Admiralty, said that the Bill would amend the provisions of the Act of 1863 relating to pensions and allowances payable to officers on disablement, and to dependent relatives, and would extend the right of pension to them in the same way as it applied to the officers of the other reserve forces.

OBITUARY.—Captain Arthur E. Dunn, C.B.E., R.D., A.D.C., R.N.R., Marine Superintendent of the New Zealand Shipping Company. The late Captain Dunn was one of the members of the R.N.R. Advisory Committee.

NEW A.D.C.—Captain J. Turnbull, C.B.E., R.D., R.N.R., has been appointed a Royal Naval Reserve Aide-de-Camp to the King from 7th January, in place of Captain A. E. Dunn, deceased.

## ROYAL NAVAL VOLUNTEER RESERVE.

LONDON DIVISION.—The annual Display, including physical training, marching manœuvres by visual and W/T and night defence stations against submarines, was held in H.M.S. " President," on 17th and 18th December, 1926. On the latter date the Lord Mayor of London presented the Divisional prizes.

EAST SCOTTISH DIVISION.—A Boxing Competition was held by the Dundee Sub-Divisions on 10th December, 1926, against the Black Watch, the R.N.V.R. winning on points.

MERSEY DIVISION.—The G.O.C. Commanding the 55th Division and C.O. of the Liverpool Territorial Force Units were entertained to dinner on 16th December, 1926, on board H.M.S. " Eaglet," by Captain Maples and officers of the Mersey Division. Lord Derby, Honorary Captain, R.N.V.R. attended.

NEW DRILL SHIPS.—The changes of Drill Ships in the Mersey Division, announced to take place in the JOURNAL of August, 1926, have now been effected.

SUSSEX DIVISION.—Gun Drill Competition for the " Longden Cup " was held during the quarter amongst the Sub-Divisions of the Sussex Command, the cup being won by No. 1 Sub-Division.

TYNE DIVISION.—A League Shooting Match was held on board H.M.S. " Helicon " on 9th December, versus the Northumberland Hussars, the latter team making the highest score.

A .22 Rifle Match was held on board H.M.S. " Satellite " versus the Tyne Dock, L. & N.E. Rly., the latter team making the highest score.

Both ships were closed for training on 13th December, 1926.

SPRING CRUISE.—Four officers and 310 men embarked in ships of the Atlantic Fleet.

## DOMINION NAVIES.

AUSTRALIA'S PROGRAMME.—In a statement at Ottawa on 4th January, during his return journey to Australia, Mr. Bruce, the Commonwealth Prime Minister, said that Australia should provide for her own defence, and was preparing to do so by a five-year programme, involving the construction of two cruisers, two ocean-going submarines, and one seaplane carrier. A substantial contribution is also being made to the establishment of a floating dry dock. Mr. Bruce also said that Australia favoured the Singapore base, but was unable, in view of her commitments, to contribute towards it.

INTERCHANGE OF CRUISERS POSTPONED.—In September, it was announced by the Admiralty that the annual interchange of cruisers between the Royal Navy and the Royal Australian Navy would not take place. The " Delhi " had not long returned to Malta, and the " Melbourne " to Sydney, from a period of service with the Australian and Mediterranean Fleets respectively.

CANADIAN NAVAL GUARD.—For the first time since the Armistice, a guard of honour of the Royal Canadian Navy was mounted at the Cenotaph in Toronto on the anniversary of Armistice Day. The R.C.N.V.R. took part in this tribute.

NAVAL SECRETARY AT OTTAWA.—Paymaster Lieutenant-Commander Alexander E. A. Eager, R.N., has been lent for a further period of three years to the Royal

Canadian Navy, as Naval Secretary to the Department of National Defence, Ottawa. In 1924-26, Paymaster Commander Eager was accountant officer at Halifax. He succeeds Paymaster Commander John A. E. Woodhouse at Ottawa.

THE INDIAN NAVY.—Legislation, both in Great Britain and in India, will be necessary for the inauguration of the Royal Indian Navy, and it is hoped it will be possible to introduce a Bill in Parliament at an early date. Meanwhile, the Government are working out proposals to give effect to the recommendations of the Committee which reported in favour of an Indian Navy being founded.

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## FOREIGN NAVIES

### ARGENTINA.

MODERNIZATION.—The following information relating to the modernization of the Argentine Navy supplements that contained in the last JOURNAL.

In addition to the purchase of three cruisers, six destroyers and six submarines, already announced, Congress has authorised the acquisition of various river craft and two vessels for oceanographical research. The Minister of Marine has announced in the press that it is intended first of all to build three submarines of 800 tons, two cruisers of 6,000 to 7,000 tons, five sloops and certain smaller craft. When these have been delivered the remainder of the programme will be considered.

The Ministry of Marine is stated to be seriously considering the establishment of a shipyard for naval construction, to be erected by private capital, but to be under the control of the Ministry.

*La Nacion* also alludes to "development on a large scale of Naval Aviation and the re-organization of the naval arsenal."

### FRANCE.

NEW CRUISER NAMED.—The 10,000 ton cruiser authorised in 1926 has been named the "Colbert," after the famous Minister of Marine in the seventeenth century. She will be similar in design to the "Duquesne," "Tourville" and "Suffren," begun in 1924, 1925 and 1926 respectively.

DISTRIBUTION CHANGES.—In the course of an article on coming changes in French naval distribution, the *Figaro* states that the three 8,000 ton cruisers, "Duguay-Trouin," "Lamotte-Picquet,' and "Primauguet," with three of the 2,400 ton destroyers of the "Tigre" class, will constitute a light fast squadron for the Mediterranean. Attached to it will be the twelve 1,450 ton torpedo boats of the "Bourrasquet" class and the six 1,100 ton submarines of the "Requin" type. A second light squadron for the Atlantic and English Channel will be formed by the remaining three destroyers in the first part of the reconstruction programme, the three ex-German cruisers, hitherto in the Mediterranean, and a great part of the destroyers and submarines which have until now formed the high-speed flotillas in the Mediterranean.

REDUCING BATTLESHIP COMPLEMENTS.—In order to provide crews for the new units without materially increasing the total effectives of the Navy, states the *Figaro*, and as recruiting is stated to be only just sufficient, certain reductions

will be made in the crews of some of the older ships. While the six battleships of the " Jean Bart " and " Bretagne " classes will continue to form the battle squadron in the Mediterranean, two of them will be placed in reserve with much reduced crews. The three old battleships of the " Voltaire " type, which at present constitute the naval division in the Channel, will be sent to Toulon to replace older vessels used for instructional purposes.

### Naval Air Service.

Catapult Experiments.—Experiments have been carried out at Brest with a new type of catapult which was mounted on the end of the breakwater.

Preliminary trials were made with an old aeroplane, having a sheep as " pilot," as it was considered possible that the shock of discharge might dislocate the neck of a human pilot. On the 22nd October, Lieutenant Demougeot took the place of the sheep in a modern aeroplane ; the pilot's seat and head rests were mounted on springs, and no excessive shock was felt on departure. The machine, which lies in a carriage running on two rails about 66 feet in length, is discharged by compressed air at a speed of 50 or 60 m.p.h. It is stated in the French press that Lieutenant Demougeot started " stunting " after flying only sixty yards, in order to show that he had the machine under control from the start.

## GERMANY.

New " Emden's " First Voyage.—On 14th November, the new German cruiser " Emden," which is to show the flag in all parts of the world, left Wilhelmshaven on her first cruise, amid much enthusiasm. A religious service was held on board, attended by the naval and municipal chiefs, and messages were read from the Minister of Defence and heads of the Naval Departments. The cruise is expected to last seventeen months.

Battleships or 10,000 ton Cruisers.—The following extract from an article which appeared in the German press is of interest, as showing how that nation aspires to rebuild an efficient navy :—

" It is reported, apparently semi-officially, that, in consequence of the distressed condition of the Kiel yards and the economic crises in Wilhelmshaven, the question of the replacement of the six battleships allowed by the Versailles Treaty, is being seriously considered. The battleships which are in service to-day are nearly all more than twenty, and some nearly twenty-five years old, and in spite of careful maintenance and modern improvements, they are no longer equal to their tasks. The question of their replacement is therefore overdue, but the Versailles Treaty lays down a limit of 10,000 tons for such replacement building, and it is quite obvious that it is impossible to build battleships of satisfactory fighting strength with such a small displacement. There is therefore no point in considering the construction of battleships under the existing conditions.

" On the other hand, it is to be observed that four of the six cruisers which the Versailles Treaty has allowed the German Navy, will be finished in the near future. One of these is being built at Kiel. A series of six torpedo boats is also already in course of construction. If, therefore, the budgets for the next two years each allowed the building of one new cruiser, the new warship construction work of the Kiel and Wilhelmshaven yards would be completed in three or at the most four years, and even the contemplated repairs programme would not be nearly

sufficient to create employment for any length of time for the thousands of workmen threatened with unemployment, unless before then a satisfactory agreement in regard to the building of battleships is reached. In our opinion, negotiations towards such an agreement can only be gone into—supposing that one insists on having battleships—with the object of seeking sanction to an increased displacement. And in this connection it would have to be considered whether an increased displacement should be asked for all six battleships—which would certainly be very difficult to obtain, or whether permission should be sought to build three or four larger battleships in place of the six small battleships—which would probably be easier to obtain.

" But the consideration which seems to us at least as important is whether the question of building battleships should not, for the present, be entirely set aside and, instead, for permission to be sought to build six 10,000 ton cruisers, with an armament of 21-24 cm. guns in place of the six battleships, of 10,000 tons already sanctioned. Since the Washington Treaty, the 10,000 ton cruiser has become a standard type in all navies, and it cannot be seen why such German 10,000 ton cruisers should appear more dangerous or inconvenient to our former opponents than battleships of a similar size. The latter would have greater defensive and offensive potentialities than the former, whose only advantage over battleships would be in respect of the increased speed.

" From the artillery side, the objection would be raised that by the abandonment of the construction of battleships the whole knowledge of the art of handling battleships and their heavy artillery would eventually be lost, but even this could be prevented for a number of years by keeping our newest battleships in service as training ships, and so in a certain measure carrying out artillery training on board ship."

## GREECE.

NEW NAVAL MISSION.—Captain C. E. Turle, R.N., arrived in Athens on 17th December to arrange details for the loan to Greece of a new British Naval Mission, the contract for which was signed on 30th December. This Mission takes the place of that somewhat abruptly dismissed in May, 1926, during the Dictatorship of General Pangalos. The new contract comes into force on 15th March, for two years, and differs from previous ones, in that the officers will be mainly concerned with the training establishments and with advising.

## HOLLAND.

NEW TORPEDO CRAFT.—The Naval Budget for 1927, which has been passed by the Dutch Second Chamber, provides funds for the building of a new submarine for service in home waters and two destroyers for service in the Dutch East Indies.

## ITALY.

CHANGE OF NAVAL ATTACHES.—Captain Ferdinando Farina has relieved Captain Count Raineri-Biscia, C.V.O., as Italian Naval Attaché in London. Captain Biscia, it is understood, is about to take up a command afloat. He will be much missed by his many friends here.

NEW CONSTRUCTION.—The Italian cruiser " Trieste " was successfully launched at the Stabilimento Technico Triestino on 24th October.

DEATH OF COMMANDER-IN-CHIEF.—The death was announced from Pisa on 20th December, of Vice-Admiral Diego Simonetti, Commander-in-Chief of the Italian Fleet, who was born in Genoa on 14th June, 1865. He passed out of the Naval College with high honours in 1887, and saw active service in three major campaigns, in China, the Italo-Turkish War, and the late World War. In the latter, he was Captain of the armoured cruiser " Ferruccio," Commander of the Naval Division in Albania, Chief of Staff of the Naval Forces, and finally Inspector of Defences of Maritime Routes. He was appointed Commander-in-Chief on 1st June, 1925, and flew his flag in the " Conte di Cavour," when certain units of his Fleet visited Malta in April last.

TRAINING.—A scheme has been adopted for sending Junior Naval Officers to sea for instruction in subsidized merchant ships. Service is limited to six months and not more than six officers will be embarked in each ship. Each group will be in charge of a Lieutenant or Lieutenant-Commander.

## JAPAN.

NAVY ESTIMATES.—The Tokio correspondent of *The Times*, in an article published on 13th December, on the new Navy Estimates for Japan, says that one of the most striking facts noted is that they include appropriations for no fewer than three concurrently running building programmes, the respective allotments being 75,000,000 yen, 10,000,000 yen, and 4,725,000 yen. The first of these three is the 1927-28 portion of the 1923-29 auxiliary ship programme; the second is the coming year's instalment of the three-year programme sanctioned at the last Diet Session for the construction of four destroyers; while the third is the first appropriation for the proposed five-year replacement programme, which, however, still awaits the sanction of the Imperial Diet. In connection with these three programmes, the correspondent recalls that, with the closing of the present financial year, the famous " 8-8 " programme, in its post-Washington Conference modified form, will come to an end, a final instalment of 8,000,000 yen being included in the 1926-27 Budget.

## PERU.

NEW SUBMARINES.—Two new submarines have recently been delivered to the Peruvian Navy by the Electric Boat Company, of Groton, Conn., U.S.A., known as the " R1 " and " R2." In a statement to the American press on 6th November, 1926, Commander E. Monge, of the Peruvian Navy, said that " R2 " had already been run approximately 2,000 miles and the seaworthiness of the boat had been fully demonstrated.

## ROUMANIA.

DESTROYER CONTRACTS.—It was reported in December that the Roumanian Government had ordered two turbine destroyers in Italy, from yards at Naples and Trieste.

## SOVIET UNION.

NEW BLACK SEA COMMANDER.—On 11th November, the Revolutionary Military Council announced the appointment of M. Orloff as Commander of the Black Sea Fleet. M. Orloff was an officer in the cruiser " Bogatyr " in the old

Russian Navy, and joined the Communists in 1918. He was recently Director of the Naval Schools.

A VON TIRPITZ REPORT.—The Official Tass Agency on 4th December declared to be unfounded a report that Grand Admiral von Tirpitz was to arrive at Cronstadt very shortly to reorganize the Soviet Navy.

## TURKEY.

BLACK SEA INTERESTS.—At the meeting at Odessa in November last, between M. Tchitcherin, the Soviet Foreign Commissar, and Tewfik Rushdi Bey, the Turkish Foreign Minister, the commander of the Turkish cruiser "Hamidieh" was present. The peoples of Turkey and the U.S.S.R., he said, must maintain close contact, so that on the Black Sea there should be one single family. The representative of the Ukrainian Government, M. Schlichter, said that if necessary the Soviet Union and Turkey would defend their interests in the Black Sea.

EX "GOEBEN" REPAIRS.—The contract for the repair of the "Yavouz Sultan Selim" (late "Goeben"), has been placed by the Turkish Government with the Société des Forges et Chantiers de St. Nazaire. When the vessel entered the floating dock at Ismid, in which the repairs are to be carried out, it was found that the structure was unable to bear the strain of the ship's weight, and one side of the dock is reported to have collapsed. The "Yavouz" herself was apparently undamaged by the mishap.

## UNITED STATES.

CRUISER PROGRAMME.—On 19th December, President Coolidge authorised the statement that he was in favour of a Bill introduced by the Chairman of the Naval Affairs Committee of the House of Representatives for the construction of ten new cruisers at a cost of about £3,000,000 each. The Bill created much surprise, in view of the President's statement in his Budget message that no estimates had been included for the construction of the three cruisers authorised in 1924. In that year, Congress authorized the building of eight cruisers. Two, the "Pensacola" and "Salt Lake City," are under construction at Brooklyn and Philadelphia; credits for three more have been voted; but financial provision had not been made up to the end of December for the other three. The Act of 1924 provided that unless action of a definite character was taken before July 1st, 1927, the authorization to build would lapse.

THREE-SHIP AGREEMENT.—On 4th January, after a conference at the White House, it was announced that the President had withdrawn his opposition to the appropriation to begin work on the three cruisers authorised in 1924. The situation therefore is that the President has recommended Congress to begin the three cruisers to which he was formerly opposed and has also approved the authorisation of ten more.

TRIPOD MASTS.—The U.S.S. "Texas" has been equipped with a tripod mast, similar to those in the British Navy, in place of her former lattice mast, and it is understood that all the other battleships will be similarly treated. The chief reason for the change is the tendency to put more and more fire control equipment aloft, and the need for the numerous wires to and from the control stations being given the utmost protection. The tripod pattern mast, completely encasing these, gives greater protection than the lattice-work of the former basket pattern.

NEW EUROPEAN FLAGSHIP.—The U.S.S. " Detroit " is to be detached from the Scouting Fleet in June, 1927, to become flagship of the U.S. European Naval Forces in place of the " Memphis."

LANDING IN NICARAGUA.—On 23rd December, Admiral Latimer landed sailors and marines at Puerto Cabezas, the capital of the Nicaraguan Liberal forces under Dr. Sacasa, " and established a neutral zone there for the purpose of protecting American and foreign lives and property." On 6th January, it was announced from Washington that six more U.S. war vessels had been ordered to Nicaraguan waters from which a force of 400 marines would be available for landing duty. Permission was given by the U.S. Government to General Diaz, the Conservative President, to purchase arms in the United States, and Admiral Latimer was authorized to prevent the landing of arms for the Sacasa (Liberal) forces.

# ARMY NOTES

## HOME.

### Regular Forces.

Appointments and Promotions.—His Majesty the King has been pleased to approve of the following appointments and promotions :—

New Field Marshal : General Sir Claud W. Jacob, G.C.B., K.C.S.I., K.C.M.G., to be Field Marshal in succession to Field Marshal Sir Arthur A. Barrett, G.C.B., K.C.V.O., deceased.

Honorary Surgeons to the King : Major-General J. S. Gallie, C.M.G., D.S.O., late R.A.M.C., and Major-General F. H. G. Hutchinson, C.I.E., M.B., Indian Medical Service.

Colonel, King's Own Royal Regiment : Colonel (temporary Colonel Commandant) O. C. Borrett, C.B., C.M.G., C.B.E., D.S.O., A.D.C., to be Colonel of The King's Own Royal Regiment (Lancaster), with effect from the 19th November, 1926, in succession to General Sir Archibald Hunter, G.C.B., G.C.V.O., D.S.O., T.D., retired pay, who has resigned the appointment.

General Officer Commanding the British Troops in Egypt : Lieutenant-General Sir E. P. Strickland, K.C.B., K.B.E., C.M.G., D.S.O., in succession to General Sir R. C. B. Haking, G.B.E., K.C.B., K.C.M.G., tour expired.

General Officer Commanding-in-Chief, Northern Command : Lieutenant-General Sir C. D. Shute, K.C.B., K.C.M.G., from Lieutenant of the Tower of London.

General Officer Commanding-in-Chief, Western Command in India : Lieutenant-General Sir C. H. Harington, G.B.E., K.C.B., D.S.O.

Military Secretary to the Secretary of State for War : Major-General Sir G. F. Boyd, K.C.B., C.M.G., D.S.O., D.C.M.

General Officer Commanding-in-Chief, Aldershot Command : Lieutenant-General Sir D. G. M. Campbell, K.C.B. 1st March, 1927.

General Officer Commanding, Malaya : Major-General C. C. Van Straubenzee, C.B., C.M.G., *vice* Major-General Sir T. Fraser, K.C.B., C.S.I., C.M.G. June 1927.

Quarter-Master-General in India : Major-General Sir C. J. Deverell, K.B.E., C.B., in succession to Lieutenant-General Hon. Sir A. R. Montagu-Stuart-Wortley, K.C.B., K.C.M.G., D.S.O. February, 1927.

Service in the Sudan.—An Army Order states that from the 1st April, 1927, the areas which will qualify for double service towards pension by a European soldier whilst in the Sudan Defence Force will be the Provinces of Bahr-el-Ghazel, Mongalla, Nuba Mountains, Upper Nile, Fung ; the district of Gallabat in Kassala Province, and those parts of the Provinces of Kordofan and Darfur which lie south of latitude 12°, including the districts of Nyala and Geneina.

Troop Horses for Polo.—The use of troop horses for polo by Army Officers, which may be permitted at the discretion of the General Officer Commanding-in-Chief, will be subject in future to a payment of £4 for the season where horses are

hired by officers on the strength of the unit on whose charge the horses are held, and this sum will be due whether the horses are used throughout the season or not. When hired by officers not on the strength, the charge for hire at home stations or on the Rhine will be 15s. a month, or portion of a month, and in Egypt 10s. a month, or portion of a month.

THE KING'S MEDAL.—The Army Council has decided that when ribands are worn in undress and service uniform, the grant of a second or further clasp to the King's Medal will be denoted by the wearing on the riband of a small silver rose, one or more such emblems to be worn according to the number of clasps awarded.

MILITARY DRESS.—It is stated in an Army Council Instruction that the universal pattern drab greatcoat, introduced in 1920, will now be worn by all officers in service dress uniform, including general officers, substantive colonels and officers of Household Cavalry and Foot Guards, and that the Athol grey greatcoat previously authorized for these three ranks of officers will be reserved for wear by them on occasions other than when service dress is worn.

WORK FOR DISCHARGED SOLDIERS.—During the months of August and October, 202 soldiers completed their courses of vocational training at Hounslow and Catterick and were discharged from the Army on the termination of their Colour service. Of this number 149 obtained immediate employment in civil life, some going to bricklaying, carpentry, painting and decorating, and others to motor and electrical work, general farming, market gardening, and others to boot repairing and other forms of employment.

ARMY RIFLE ASSOCIATION MATCHES.—The following are the results of the non-central matches arranged by the Army Rifle Association last year and fired by units of the Home Commands :—

| | |
|---|---|
| Queen Victoria Trophy .. .. | 2nd King's Royal Rifle Corps. |
| King George Cup .. .. .. | 2nd East Surrey Regt. |
| The Prince of Wales' Cup . .. | Depot, Gloucestershire Regt. |
| The Royal Irish Cup .. .. | 2nd East Surrey Regt. |
| The Young Soldiers' Cup . .. | 12th Royal Lancers. |
| 18th Hussars Cup .. .. .. | 13th/18th Hussars. |
| 18th Hussars Cup .. .. .. | 1st Welsh Guards. |
| 1st Army Cup .. .. .. | "C" Coy., 2nd East Surrey Regt. |
| The Artillery Cup .. .. .. | 18th Heavy Battery R.A. |
| The Squadron Shield .. .. | "C", Sqdn. 14th/20th Hussars. |
| The Company Shield .. .. | "D" Coy., 1st Suffolk Regt. |
| The Corps Shield .. .. .. | 54th Field Coy., R.E. |
| The Hopton Cup .. .. .. | 14 Platoon, 2nd K.R.R.C. |
| The Machine Gun Cup .. .. | 1st Lincolnshire Regt. |
| The Machine Gun Fire Control Cup | 1st Suffolk Regt. |
| Royal Tank Corps Match .. .. | "A" Coy., 5th Battalion, R. Tank Corps. |
| The Duke of Connaught Cup .. | 1st Lancashire Fusiliers. |
| The Revolver Cup .. .. .. | Lieut. F. Franks, M.C., 1st Lancashire Fusiliers. |

Eastern Command Cup—

*Class "A"* Sergeants, E. Clarke and C. Scarr, "C" Sqdn. 14th/20th Hussars.

*Class "B"* Corporals, P. Waugh and W. Casey, Carabinier Sqdn., 3rd/6th Dragoon Guards

## BRITISH MILITARY ACTIVITIES IN CHINA.

In view of the abnormal situation in China, the War Office announced on 24th January that it had been decided to send one Division, under Major-General J. Duncan, C.B., C.M.G., C.V.O., D.S.O., to Shanghai, for the protection of British subjects and property there.

This Force is to be known as the Shanghai Defence Force, and is constituted as follows :—

*13th Infantry Brigade.*

1st Battalion Middlesex Regiment.
1st Battalion The Cameronians.
1st Battalion The Border Regiment.
1st Battalion The Green Howards.

*14th Infantry Brigade.*

2nd Battalion Coldstream Guards.
1st Battalion The Bedfordshire and Hertfordshire Regiment.
2nd Battalion The Border Regiment.
1st Battalion The Devonshire Regiment.

*20th Indian Infantry Brigade.*

2nd Battalion The Gloucestershire Regiment.
2nd Battalion The Durham Light Infantry.
4th/1st Punjab Regiment.
3rd/14th Punjab Regiment.

*Artillery.*

1st Field Brigade R.A.
Headquarters.
11th and 18th Howitzer Batteries.
4th Pack Brigade.
Headquarters.
15th, 20th and 21st Batteries.
A Pack Brigade and a Medium Artillery Brigade from India.

*Tank Corps.*

5th Armoured Car Company, Royal Tank Corps.

*Ancillary Services.*

Of this force, at the time of going to press, one battalion of the Punjab Regiment has already arrived at Shanghai, the remainder are all *en route*.

British Military Forces in China.—The following British troops are now stationed in China :—

*South China Command.*—Seven heavy batteries and one Pack Battery, R.A.; 40th Fortress Co., R.E.; one Signal Section, R.C.S.; 2nd Battalion King's Own Scottish Borderers; and 2nd Battalion Suffolk Regiment; all at Hong Kong, under the command of Major-General C. C. Luard, C.B., C.M.G.

*North China Command.*—Detachment Royal Engineers; one Signal Section, R.C.S.; and the 1st Battalion East Yorkshire Regiment; at Tientsin, under the command of Colonel Commandant R. M. Heath, C.M.G., D.S.O.

# PRINCIPLES GOVERNING THE PROMOTION OF OFFICERS IN THE ARMY.

*(In view of the articles and correspondence on the subject of "Promotion by Merit" which appeared in the* JOURNAL *during the past year and the fact that the matter interests a large number of our readers, the latest regulations governing promotion in the Army are reproduced herewith, in full.*—ED.)

## PROMOTION TO THE RANKS OF COLONEL, MAJOR-GENERAL AND LIEUTENANT-GENERAL.

1. Promotion to the ranks of colonel and above is by selection and a lieutenant-colonel, colonel or major-general will not be selected for promotion unless he is considered fully qualified :—

(*a*) for a colonel's (major-general's, lieutenant-general's) command and appointment ;

(*b*) for a colonel's (major-general's, lieutenant-general's) command ;

(*c*) for a colonel's (major-general's, lieutenant-general's) appointment, respectively.

2. Although as a rule the claims of officers for promotion will be considered in order of seniority, an officer whose early advancement is in the interests of the service may be specially selected for promotion to fill a vacancy, whatever may be his position as regards seniority in his rank at the time.

3. When selections for promotion are made the following points will be carefully examined in each case :—

(*a*) whether the officer's past record justifies his favourable consideration and particularly whether his promotion has been recommended with confidence by the officers under whom he has lately served ;

(*b*) whether he is fitted in every way to fill adequately all or any of the appointments likely to be available for him in the higher rank for which he is being considered ;

(*c*) whether, taking into consideration the merit, age and seniority of other officers, his promotion is clearly in the best interests of the service.

4. An officer who is passed over for promotion will be superseded temporarily or permanently ; if permanently, he will not again be considered for promotion and will be so informed.

## PROMOTION TO THE RANK OF LIEUTENANT-COLONEL.

5.—(*a*) Promotion to the rank of lieutenant-colonel will be by selection and will be given to the major best suited by his records and according to the circumstances of the case to fill the vacancy under consideration.

(*b*) Accelerated promotion to the rank of lieutenant-colonel may be given to a major who has shown outstanding proof of ability and industry, together with capacity for command, initiative, tact, reliability and loyalty to his superiors.

6. Promotion to command a regiment of cavalry or a battalion of infantry will be given to a major within the regiment or to a major selected for accelerated promotion from another regiment.

In the event of a major being passed over for promotion, his supersession will be temporary or permanent.

Temporary supersession means that the officer will be considered for promotion to fill a subsequent vacancy. A major who is permanently superseded will be relegated to the half-pay list.

7.—(*a*) Promotion to the rank of lieutenant-colonel to fill vacancies in the establishments of the R.A., R.E., R. Signals, R. Tank Corps, R.A.S.C. and R.A.O.C. will be given as follows :—The records of the senior majors in each case will be reviewed in order of seniority and promotion will be given to those who by reason of their merit, seniority and age are most deserving of it. Such promotion will be given to majors in order of seniority or in such order as may be decided.

(*b*) The supersession of those passed over will be temporary or permanent (the effect in each case being as described in para. 6).

(*c*) In the interests of the service officers from the accelerated promotion list (see para. 5 (*b*)) may be specially selected to fill vacancies for promotion to lieutenant-colonel.

### Promotion to the Ranks of Lieutenant, Captain and Major.

*General Remarks.*

8. While no general change in the present system of normal promotion from the rank of second-lieutenant up to the rank of major is contemplated, it is essential that officers of marked ability shall be given the chance of reaching the highest ranks of the Army at a reasonable age.

9. An officer will be recommended for accelerated promotion only if he has given outstanding proof of both ability and industry together with capacity for command, initiative, reliability, tact, and loyalty to his superiors.

10. Accelerated promotion in the cavalry and infantry will be given by promotion to the next higher rank ; in the R.A., R.E., R. Signals, R. Tank Corps, R.A.S.C. and R.A.O.C., by means of an antedate. A subaltern may receive an antedate not exceeding one year, a captain not exceeding three years.

11. An officer will not receive seniority in his own rank by virtue of an antedate, which will only come into effect when, by reason of it, the officer becomes due for promotion to the next higher rank (see Appendix). The award of an antedate is not necessarily final ; subsequent reports may result in increase, decrease or cancellation of the antedate.

12. Though an officer may be recommended for accelerated promotion or antedate as soon as he shows clearly that he possesses in a marked degree those qualities mentioned in para. 9 above, he will not be eligible for such promotion or antedate until :—

(*a*) He has been twice recommended, one of the recommendations being made, if possible, whilst he is at regimental duty.

(*b*) He has passed the necessary qualifying examinations for promotion.

(*c*) As a subaltern, he has seven years' service or is twenty-eight years of age, or as a captain has twelve years' service or is thirty-two years of age.

METHOD OF SUBMITTING RECOMMENDATIONS FOR ACCELERATED PROMOTION OR ANTEDATE.

13. Recommendations for accelerated promotion and for antedate, where applicable, will be submitted through the usual channels on A.F. B.195 yearly, immediately after the annual confidential reports have been rendered. They will be signed by the officer's immediate C.O. and superior reporting officers will add their remarks stating whether they do or do not support the recommendation.

14. Recommendations in the case of subalterns will, whenever possible, be accompanied by independent recommendations written by the two senior officers of the corps present in addition to the C.O.

15. A list of all officers recommended for accelerated promotion or antedate will be kept by the command. When an officer on that list leaves the command, the latter will be responsible for notifying his name, with the necessary information concerning the recommendation, to the new command to which he is transferred. Such information will contain the number of times that the officer has been recommended for accelerated promotion, and the amount of antedate recommended (where applicable). Those officers under whom the officer is directly serving in the new command will also be duly informed. Each officer on the accelerated promotion list will be reported upon annually on the prescribed form until promotion has been received or his name removed from the list.

16. If it be desired to remove an officer's name from the list, the fact and reasons will be notified by the command concerned to the War Office, and the officer will be informed.

BREVET PROMOTION.

17. Specially meritorious service, both at regimental duty and on the staff, may be recognized by the grant of brevet promotion to next higher rank.

18. The object of brevet promotion is to ensure the advancement of selected officers in order that they may be able to reach the higher ranks of the army at the most suitable ages.

19. An officer who has received a brevet-colonelcy or brevet-lieutenant-colonelcy and who is subsequently promoted colonel, will count seniority on the colonels' list from the date of his brevet-colonelcy or four years from the date of his brevet-lieutenant-colonelcy, whichever is the more advantageous.

APPENDIX.

The following table shows how an antedate will take effect :—

| | |
|---|---|
| Captain "A" .. .. .. .. .. | 30.10.14 |
| Captain "B" .. .. .. .. .. | 30.10.14 |
| Captain "C" .. .. .. .. .. | 18.12.14 |
| Captain "D" .. .. .. .. .. | 23. 7.15 |
| Captain "E" .. .. .. .. .. | 23.12.15 |
| Captain "F" .. .. .. .. .. | 16. 2.16 |

Captain "F" is granted one year antedate. This will bring him up for promotion between Captains "C" and "D."

He remains in his present position on the regimental list of captains, however, until the next vacancy occurs after Captain "C" has been promoted ; he will then be promoted into that vacancy.

THE WAR OFFICE,
*20th October*, 1926.

## TERRITORIAL ARMY.

The following appointments of Divisional Commanders, Territorial Army, have been announced by the War Office :—

46*th North Midland*: Major-General Sir P. O. Hambro, K.B.E., C.B., C.M.G., *vice* Major-General C. C. Van Straubenzee, C.B., C.M.G. June, 1927.

53*rd Welsh*: Major-General T. A. Cubitt, C.B., C.M.G., D.S.O., *vice* Major-General Sir T. O. Marden, K.B.E., C.B., C.M.G. 4th June, 1927.

42*nd East Lancashire*: Major-General C. D. H. Moore, C.B., C.M.G., D.S.O., *vice* Major-General A. Solly-Flood, C.B., C.M.G., D.S.O. 11th June, 1927.

51*st Highland*: Major-General Sir W. M. Thomson, K.C.M.G., C.B., M.C., *vice* Major-General A. B. Ritchie, C.B., C.M.G. 16th June, 1927.

52*nd Lowland*: Major-General H. F. Thuillier, C.B., C.M.G., *vice* Major-General H. L. Reed, V.C., C.B., C.M.G. 21st June, 1927.

54*th East Anglian*: Major-General Sir T. C. Matheson, K.C.B., C.M.G., to command, *vice* Major-General J. Duncan, C.B., C.M.G., C.V.O., D.S.O. 27th July, 1927.

50*th Northumbrian*: Major-General Sir G. N. Cory, K.B.E., C.B., D.S.O., *vice* Major-General F. A. Dudgeon, C.B. 4th July, 1927.

44*th Home Counties*: Major-General A. G. Wauchope, C.B., C.M.G., C.I.E., D.S.O., *vice* Major-General Sir H. W. Hodgson, K.C.M.G., C.B., C.V.O. 22nd June, 1927.

56*th* (1*st London*): Major-General H. Isacke, C.B., C.S.I., C.M.G,. *vice* Major-General Sir C. P. T. Feilding, K.C.B., K.C.V.O., C.M.G., D.S.O. 22nd June, 1927.

Examination Requirements for Commissions.—It has been decided that all officers granted commissions in the Territorial Army either on their service qualifications in the ranks as provided in the T.A. Regulations, or under those provisions in the Regulations which enable candidates with no previous military qualifications to obtain commissions, will be required to pass the examination for Certificate "A" O.T.C. at the earliest opportunity, and, in any event, within three years of being commissioned. An officer who has been granted a commission on his undertaking to pass the examination within three years, will not be allowed to remain in the T.A. unless he obtains the certificate within that period. From 1st January, 1927, a second lieutenant will not be promoted lieutenant unless he is in possession of the certificate, except in the case of those officers commissioned on their overseas service during the war.

An officer in possession of Certificate "A" of one branch of the service will be permitted, on joining another branch, to convert his certificate by taking up only those portions applicable to the new branch which are not common to the two branches. For example, an officer in possession of Certificate "A" (Infantry) before being considered as qualified for promotion to the rank of lieutenant in the R.A., will be required to pass in Part I (Practical) and the second paper of Part II (Written) of the examination for Certificate "A" (Artillery).

Shooting.—The Territorial Army Rifle Association's decentralised competitions have been won this year with scores which in most cases show a decided improvement upon those of last year. The principal prize winners were :—

1. Lord Lieutenant's Challenge Shield.—1st, Northumberland Hussars 2nd, 6th Devonshire Regiment.

2. High Sheriff's Challenge Shield.—1st, "B" Squadron, Northumberland Hussars; 2nd, 8th Argyll and Sutherland Highlanders.

3. B.S.A. Challenge Bowl.—1st, "B" Squadron Northumberland Hussars; 2nd "D" Company, 4th Devonshire Regiment.

4. Lewis Gun Challenge Trophy.—1st "A" Company, 6th Devonshire Regiment; 2nd, "C" Company, 8th Argyll and Sutherland Highlanders.

5. Vicker's Gun Challenge Cup.—1st, 7th London Regiment (Post Office Rifles); 2nd, 6th Devonshire Regiment.

6. Yeomanry Challenge Cup.—1st, "B" Squadron, Northumberland Hussars; 2nd, "B" Squadron, Duke of Lancaster's Own Yeomanry.

7. Imperial Tobacco Aggregate Challenge Cup (for scores in matches, 1, 2, 3, 4 and 5).—6th Devonshire Regiment.

8. Army Rifle Association Aggregate Challenge Cup (for scores in matches 2, 3 and 4).—"C" Company, 8th Argyll and Sutherland Highlanders.

9. Yeomanry Aggregate Challenge Cup. "B" Squadron, Northumberland Hussars.

## THE DOMINION FORCES.

REGIMENTAL ALLIANCES.—H.M. the King has approved of the following regimental alliances:—

*Non-permanent Forces of Canadian Militia.*—The Canadian Engineers to the Corps of Royal Engineers; The Canadian Scottish Regiment to The Royal Scots (The Royal Regiment).

*Australian Military Forces.*—The 53rd Battalion Australian Infantry to the South Staffordshire Regiment; The 59th Battalion Australian Infantry to the East Lancashire Regiment.

*New Zealand Forces.*—The 5th New Zealand Mounted Rifles (Otago Hussars) to the 16th/5th Lancers; 1st New Zealand Mounted Rifles (Canterbury Yeomanry Cavalry) to the 12th Royal Lancers (Prince of Wales's).

*Union of South Africa Active Citizen Force.*—The South African Corps of Signals to the Royal Corps of Signals.

## FOREIGN

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### CHINA.

TACTICS IN THE ATTACK AND DEFENCE OF THE NANKOW PASS, AUGUST, 1926.—

(*a*) *Situation near Nankow at the beginning of August,* 1926.

The first Kuominchun Army was holding the Nankow Pass against the allied "anti-red" forces of Chang-tso-lin (Fengtien Army), Wu-pei-fu and Chang-tsung-Chang (Shantung Army).

These forces, under the supreme command of General Han, numbered about 150,000; of these the best troops were two divisions of the Fengtien Army commanded by Chiang-hsueh-liang, son of Chang-tso-lin. The "anti-red" attack on

the position commenced on 16th July, and at first did not meet with any great success.

(*b*) *Description of the Nankow Pass position.*

The position taken up by the defence consisted of a trench system twelve miles in length, lying astride the Peking–Kalgan railway, just south of the foothills which lead up to the Nankow Pass. The trench system, excellently cited for field of fire, consisted in most places of only one fire trench. Its construction however, was much in advance of any similar defensive position recently seen in China, and there was evidence of the assistance of Russian sappers in its layout. The fire trench included a number of shrapnel-proof redoubts, overhead cover being provided. This was provided by iron rails and cement; fire bays were furnished with loopholes made with fish-plates from the railway. In front of the fire trench was a type of abattis, consisting of another trench, eight feet deep, lined with sharpened wooden stakes. In front of this again was yet another trench containing a live electric trip wire. This in turn was defended by an abattis of brushwood, interspersed with two lines of barbed wire knife-boards.

From the above description it will be seen that the actual construction of the defence line was such that it formed a considerable obstacle to any army not well equipped with medium artillery.

The weakness of the position, however, lay in the failure of the defence to utilise the most suitable available ground. As sited, the main defensive line made no use of the foothills near the entrance to the pass, and the works of the position were conspicuous throughout its whole length, particularly on a small hill on the left. In addition, no attempt had been made to include in the position a small foothill lying within 3,000 yards of the main trench system, observation from which completely commanded the whole position.

(*c*) *The Attack.*

The attack, which was delivered on 14th August, was made against the left of the enemy position. The small outlying hill, referred to in the previous paragraph, was captured without any resistance on the part of the defence, and behind it the attackers massed about 100 guns. Under cover of heavy artillery fire from this position, a frontal attack succeeded in capturing the commanding hill on the left of the defence. This attack was assisted by a turning movement carried out by one regiment, about 2,000 strong, round the enemy's left flank, but the dominating factor in the battle appears to have been the superiority in artillery of the attack which, at such a short range as 3,000 yards, was able to inflict very considerable damage to the entrenchments.

The artillery supporting the attack consisted of eight regiments, seven of which were armed with 77-mm. guns, and the eighth with 150-mm. howitzers. In addition the attackers concentrated some fifty 3-inch trench mortars which engaged the enemy trenches at a range of 1,500 yards.

On the capture of the hill which commanded the defence, the defenders evacuated their trenches. No rearguard positions in the Nankow Pass itself had been prepared, although the ground offered suitable sites. Kalgan fell to the allied forces on 16th August. The retirement of the Kouminchun forces westward continued, but no further fighting on this front took place as the allied forces did not attempt to pursue.

(*d*) *Summary.*

While Chiang-hsueh-liang claims the capture of the Nankow position as a great victory, and states that his forces incurred 2,000 casualties on 14th August,

the Kouminchin version of the engagement is that their forces retired " according to plan," shortage of ammunition and artillery making the further defence of the Nankow position impossible.

In either case there is evidence that bribery played its usual large part in the victory, for the commander of the troops co-operating some 100 miles to the left flank was paid over 250,000 dollars to defect.

Though the defenders retired in good order, it seems improbable that they would have allowed so many of their guns to fall into the hands of the attackers if the retirement had been purely voluntary. The loss of these guns, together with the number of casualties which were undoubtedly inflicted on the attacking forces, confirms the opinion of recent visitors to Nankow that the fighting in this area in August was of a much more serious nature than that usual in Chinese civil warfare. The two facts of interest stand out; first, that of the allies, only the Fentgien forces made any impression on the Kuominchun defences; and, secondly, that the accuracy and volume of the Fengtien artillery was the deciding factor in the attack. There is every evidence that the armies of China are rapidly learning the value of artillery, and the method of its application in support of an attack against an organized defence.

## DENMARK.

THE ARMY IN 1926.—The disarmament proposals still continue to hold the field as the principal topic of military interest in Denmark. Owing to the recent dissolution of Parliament, no further progress is likely to be made with the Bill at present.

In the meanwhile estimates for 1927-28 have been introduced which show a reduction of approximately 8 million in a total of 29½ million kroner; this reduction is dependent upon (*inter alia*) an amendment of the 1922 Army Act, which will enable a smaller number of conscripts to be called up for training in the coming year.

The Commander-in-Chief, General Wolff, was succeeded recently by General A. G. Nyholm. General Wolff is seventy and General Nyholm sixty-five years of age.

Divisional exercises were carried out in Sealand and Jutland in September and October, but nothing of interest came to light.

## ITALY.

MANŒUVRES.—Manœuvres, which should more accurately be called experimental exercises, recently took place in the vicinity of Perugia and Lake Trasimene. No foreign attachés were allowed to attend, and this account is merely a *resume* of Italian official statements and descriptions in the press.

The exercises lasted nine days, from 5th to 14th September. But each day of actual operations was followed by a day of rest, which was utilised to allow umpires and observers to follow the experiments and to prepare the next day's work. The scope of the exercises was as follows:—

(*a*) Last year's exercises showed defects in the march formation, both before and after contact with the enemy and during deployment. It was also considered that the infantry was not deployed sufficiently in depth. The object of this year's exercises was to see whether the new regulations have cured this tendency.

(*b*) To weigh the advantages of dispersing the field artillery at the earliest possible moment in the line against those of keeping it under the hands of the commander to the last possible moment.

(*c*) A test of intercommunications, which were defective in 1925. In this connection the divisional aircraft were tried.

(*d*) The use of tanks in hilly country and in bushy country.

(*e*) The value of a battalion of National Militia armed with rifles and bombs, but without machine guns or other automatic weapons.

(*f*) The efficiency of administrative services.

(*g*) W/T communications.

(*h*) The use of divisional aircraft for advance guard reconnaissance work, artillery observation, topographical and photographic work and ground attack.

The exercises were directed by Lieutenant-General G. Vaccari, Commanding the Army Corps of Rome.

The forces engaged were as follows :—

*Blue*—

One division of three regiments on a war footing (i.e., the Divisione Ternaria)—approximately 8,000 men—consisting of :

Three regiments of infantry.
One regiment of field artillery (48 guns).
Two groups of heavy field artillery (24 guns).
Special machine-gun sections.
One battalion, Bersaglieri (cyclists).
One squadron of cavalry.
Tank sections.
One battalion of Sappers and Miners.
Two squadrons of aeroplanes.
Special R.E. sections.
Administrative services.
One battalion of National Militia.

*Red*—

One regiment of infantry.
One battalion of Bersaglieri (cyclists).
Half a regiment of cavalry.
Two groups of field artillery (24 guns).
One squadron of aeroplanes.
Administrative services.

These Red forces constituted a flank guard to a main column which was not represented.

The general idea was that the Red Forces (the flank guard) were to protect the left flank of the main Red Force (not represented) from the attacks of the Blue Force.

At the end of the operations criticisms and remarks were made by the Director. According to him the exercises were planned to emphasise the importance of two great principles :—

(*a*) The value of co-operation between all arms, and especially between artillery and infantry ; and

(*b*) The value of the offensive spirit.

He declared that the Divisione Ternaria has been proved an indivisible formation to be kept under the command of one man in " almost all operations." This is to be a cardinal point of future tactical measures, and the divisional commander must personally direct the employment of all arms and especially the fire action of the infantry and artillery and the use of the reserve.

The artillery is looked upon as the " great and infallible reserve " of the divisional commander who should on that account always have at his side his C.R.A., the latter being considered of even more importance than the Chief of Staff, and regarded as the technical adviser to the divisional commander and as executor of his wishes. It is considered that if the divisional commander renounces control of his artillery he renounces control of his division. Artillery must always be employed as a mass to act in assisting the fire of the infantry and in assuring their progress against the resistance of the enemy. This is to be regarded as the final definite duty which will govern all artillery action in the future with the sole object of ensuring the success of its own infantry and to save it from losses as much as possible.

Referring to the cavalry, the Director observed that it was an arm which was easily used up and hence should only be allotted definite tasks. Its duty is to gather information, and its use to assist infantry spells too great wastage.

Cyclists are described as having a " large output," and giving evidence of great staying power. At the same time they show a tendency to remain on the roads in the valleys, which must be fought against as they must realise that it is only from the heights that they can dominate the situation.

The National Militia was tremendously boosted and given every opportunity of showing its worth. It is described by the Director as having shown the " exuberance of youth and enthusiasm," but this did not conceal its inexperience. He made allowances for it, however, as it had only had ten days' previous field training, and it was realised that this had been quite insufficient to teach it even the rudiments of its job. This battalion, during the exercises, was regarded as a species of shock troops. It consisted of three companies, of five officers and 120 men each, with only the lightest possible equipment and armed only with rifles and bombs. The men carried no packs. It was designed to supplement the infantry regiment, not so much in point of numbers as in providing a nucleus of assault capable of rapid movement. To carry out its functions it depended upon the individual qualities and initiative of its men rather than open fire effect, utilising to the full its powers of wide extension, infiltration and supplies.

All the services, and especially the engineers, came in for praise.

As regards the aircraft, probably the principal object of the manœuvres was the co-operation between aircraft and troops, and the various schemes that were worked out on the ground were merely pegs on which to hang a series of experiments mostly of an aerial nature. During the exercises each column of Blue troops during each day's action was accompanied by one aeroplane whose object was to reconnoitre the country ahead, control the position of the head of the column, and liaise between it and the columns on either flank. The method of operation was for the column to halt at a specified moment in each hour, when the observer reported the position of the head of the column as halted to the divisional commander, and to the column commander on either flank. If the troops were difficult to see, the observer dropped a black smoke ball calling them to expose their identification cloths. From time to time reports were sent to brigade or divisional commanders by W/T if the situation required more frequent control

than was afforded by the hourly halt. It was found that the infantry was inclined to ask for more aircraft than were available or allotted to it.

R/T messages were successfully passed between aircraft and ground over a range of " several tens of kilometres." Owing to the thick bush which covered the country contact observation was often very difficult, but nevertheless was well carried out. Tank attacks during the early part of the exercises were defeated by the early intimation of their movements being given by aircraft. To combat this smoke screens were used during the latter part of the exercises.

On one occasion it is claimed that less than twenty-five minutes passed between the taking of a photograph of a battery in a well-hidden position and the delivery of the print of it to headquarters.

## NORWAY.

PROPOSED REORGANIZATION OF THE ARMY.—An article recently appeared in the Norwegian press containing a scheme for a reorganization and reduction of the army. The army in Norway is, of course, organized on a conscript basis, and has a permanent staff of about 3,500, chiefly composed of regular officers and non-commissioned officers. It is at a reduction of this staff that the scheme under discussion aims.

The authorship of the article is interesting, for it is produced by the Norwegian Non-Commissioned Officers' Association.

The scheme proposes that all officers should be educated at a common school —sergeants, colour-sergeants and quartermaster-sergeants being classed as officers.

This school should be organized in three " divisions," each providing a higher grade of education than the division below it. It is proposed that all sergeants, quartermaster-sergeants, colour-sergeants and about half the captains should be provided by the 1st division of the school ; all the lieutenants, half the captains and half the majors from the 2nd division and so on.

The field artillery of the army will, if the scheme is adopted, be reduced by one-third, and the active infantry by one-eighth, of the existing strength, besides other drastic proposals.

According to the authors of the article about one-half of the existing officer personnel will become redundant, and proposals are put forward for retiring them on pension prematurely.

It will be seen that these proposals are somewhat radical, and the whole article provides an illuminating sidelight on the evils attending the formation of " associations " within the active forces of the State.

## SWITZERLAND.

### NOTES ON SWISS ARMY MANŒUVRES.

*Locality.*—The manœuvres were held this year in the Canton of Argovie (north-east Switzerland) in the Zurich area, between the 20th and 24th September under ideal weather conditions, although the heat during the middle of the day proved trying to the infantry. The manœuvres taking place as they did in German Switzerland, were extremely germanic in character, intensified by the presence of General von Kluck, the famous opponent of our army in 1914, who is now eighty-two years of age, and doing a cure in Switzerland. He was invited by the director

of the manœuvres to attend. During the manœuvres he specially requested that the British Military Attaché should be introduced to him, remarking to him: "Mons, Le Cateau and now we are friends."

The area chosen was just south of the Rhine near Koblenz (the point of confluence with the River Aar). It is undulating and very wooded, difficult to maintain contact in, and traversed laterally by the two rivers Limmat and Reuss, both about 100 yards wide with a rapid current.

*Scope and object of the Manœuvres.*—The three army corps of the Swiss Army follow a definite programme of yearly training. One carries out regimental training only, one brigade training, and one divisional training. In the latter case each division is reinforced by corps and army troops. The manœuvres form part of the repetition course (thirteen days in all) of the Elite, of which this year seven classes in all had been called up. No Landwehr class was called up for training this year.

The last four or five days are, in the case of the army corps carrying out divisional training, allotted to manœuvres. In this case it was the 4th Division (Colonel Divisionnaire Favre), forming part of the 2nd Army Corps (Colonel Corps Commandant Bridler). The 3rd Division, the other division belonging to this corps, had carried out its divisional training in August.

*Troops.*—The 2nd Corps is commanded by Colonel Corps Commandant Bridler and consists of the 3rd and 4th Divisions, commanded by Colonels Divisionnaires Scheibli and Favre respectively. The regiments of the 4th Division are from the cantons of Bâle, Argovie, Aarau and Zurich, and appeared, as regards physique, to be small and sturdy. The corps commander has been brought up entirely in the German school of soldiering, having been attached to a German staff during the war.

*Military Attachés.*—Military Attachés from six countries were present, Great Britain, Spain, United States, France, Italy and Czechoslovakia. A French officer from the *Ecole de Guerre* (Colonel Daille, professor of military history) and the Italian air attaché were also present.

*Notes on certain Arms.*—

A.—Pontoon battalions (engineers army troops).

Each pontoon battalion has four companies, of which two companies are allotted to divisions and two companies as army troops.

Each army corps has one battalion.

Pontoon bridges capable of transporting field artillery and divisional horse transport were put across the rivers Reuss and Limmat, both of which were roughly 75 metres in length, in one hour. The bridges consisted of ten piers of pontoons. Each pier was formed of two pontoons end on. Each pontoon was carried on one horse wagon (two horses).

B.—Mounted machine-gun companies. (*Compagnies de Mitrailleuses attellées*).

Each division has one group consisting of three companies.

Each company nine machine guns.

Each gun and its team of six men is carried on a limber drawn by four horses.

These companies are very mobile and move as fast as the mounted troops.

*General Criticisms.*

(*a*) Unlike last year, when the infantry still advanced in lines of skirmishers, this year they adopted the group formation, each section of the company, of which there are four, being divided into five groups.

(*b*) Although the country was exceedingly difficult to advance over, being hilly and very wooded, communication between the various formations was very well maintained, laterally and in depth.

(*c*) Artillery support was not very apparent owing to the relatively small numbers of guns employed, but batteries during the day-time were well concealed in the woods, and all batteries were in telephonic communication with their group commanders.

(*d*) Concealment generally from the air during the day-time was carefully practised both by infantry and mounted troops.

(*e*) The troops as usual, especially the infantry, showed marvellous powers of marching in hot weather with their full equipment. There was no falling out and march discipline on the roads was strictly enforced.

(*f*) The Swiss are introducing a small transport wagon much more adaptable to the mountain roads than the present heavy train wagon which resembles the one used in the British Army.

*Administrative.*

(*a*) The troops were well fed. On both sides the system of supply in time of war was practised. There was a railhead for each force, and from the railhead to refilling points motor transport was utilised. The infantry bivouacked on the ground, making use of the small *tente d'abris* which is carried on the man's pack. Each soldier carries a section, the whole tent shelters two men.

The artillery, corps troops and army troops made use of barns in the villages, also sheds and public buildings. These are all paid for at fixed rates.

(*b*) The artillery and transport animals are hired annually for manœuvres as they would be on mobilization. The cavalry horses belong to the men, being purchased from the Swiss Government. The latter are practically all Irish horses.

*Staff Officers.*—The Swiss staff officer, although lacking in the experience of actual warfare, is very highly instructed in the art of war and is very studious. There is nothing which has been written on the last war by the military writers, both German and Inter-Allied, which he has not read, and many of the service staff officers during the war were attached either to the French or German Armies as spectators.

*Officers.*—There is a corps of instructors numbering about two hundred who are absolute *Officiers de carriere* and work as instructors the whole year round. With the exception of these, all other officers up to the rank of brigade commander are civilians who have passed the necessary courses required for promotion. From the rank of divisional commander upwards a man must give up his civilian employment and become an officer and nothing else.

One very able artillery brigade commander was a celebrated surgeon at Lucerne, whilst their best aviation pilot is actually a dentist at Zurich. This gives an idea of how readily the Swiss take up soldiering and what a military nation they are by inclination.

*Umpiring.*—The umpiring was very much better this year than last. The information which was excellently run was, as during last year, under the orders of Colonel Combe, in charge of the operations branch of the General Staff. This officer received his military education at the French *Ecole de Guerre*, like many other of the Senior Swiss staff officers.

*Conference.*—The final conference was held by Colonel Bridler, commanding the 2nd Corps, who was the director of the operations. It was attended by all officers from the rank of regimental commander upwards and by a vast crowd of spectators, mostly officers of the Landwehr and Landsturm.

*The March Past or "défilé."*—All Swiss manœuvres terminate by a "défilé" of the troops employed, by cantons. All infantry march past the saluting point doing the "goose step," and the whole country-side turns out to watch them.

# AIR NOTES

## ROYAL AIR FORCE

### NAVAL CO-OPERATION.

FLEET AIR ARM AND COASTAL RECONNAISSANCE UNITS.

IN HOME WATERS.—The flights embarked in H.M.S. " Furious " spent the first month of the quarter with the Atlantic Fleet in Northern waters and were employed in the usual programme of training and routine exercises. The " Furious " arrived at Portsmouth on 1st November to give leave and has since rejoined the Fleet.

H.M.S. " Argus," after recommissioning at Portsmouth, sailed for China on 1st February with a full complement of R.N. and R.A.F. ranks and ratings, and with aircraft and spare parts for that station.

IN THE MEDITERRANEAN.—H.M.S. " Eagle " left England for the Mediterranean (after recommissioning) on 16th October, arriving on 24th October at Malta, since when the usual programme of air training has proceeded.

No. 481 (Coastal Reconnaissance) Flight at Malta have co-operated with the naval and military units stationed at Malta, and have continued their normal routine of training and exercises.

AEROPLANE DISASTER.—An Avro Bison deck-landing biplane, piloted by Flight-Lieutenant C. F. Brewerton, R.A.F., flying from Halfar Aerodrome on 18th January, in attempting a forced landing, struck the cliff and crashed into the sea. Lieutenant E. Chafe, R.N.; Lieutenant G. O. Owen-Jones, R.N.; and Leading Telegraphist Burton, R.N., were also in the aeroplane. All four occupants were drowned.

At the time of the disaster the weather conditions are reported to have been very boisterous with a heavy downpour of rain and strong wind. A Court of Enquiry has investigated the cause of the accident, but up to date no official report of their finding has been made public.

IN EASTERN WATERS.—H.M.S. " Hermes " left Malta for China on 20th September and arrived at Hong Kong on 11th October; her aircraft, in conjunction with those of the " Vindictive," have been employed in reconnaissance and patrols, etc., in connection with the general situation in China.

(*See also Navy Notes page* 196.)

## OVERSEAS COMMANDS

### EGYPT.

A considerable amount of flying has been accomplished by all squadrons during the period under review. The total flying time of No. 4 Flying Training School during August was 1,304 hours, a record for this unit.

On 15th September, a Flight of two Victorias, under the command of Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., left Cairo and flying *via* Atbara, Port Sudan and Massowa, arrived at Aden on the 19th September according to programme and without incident. The Flight remained at Aden for five days and then returned to Cairo *via* Massowa, Kassala and Khartoum. On the return journey two days were spent at Massowa, visiting the Italian authorities, and two days at Khartoum.

### INDIA.

During the period under review, training has proceeded on normal lines, and co-operation in Army training schemes has been frequently carried out.

The Western Command Manœuvres took place during the four days, 2nd-5th October. A number of close reconnaissance and bombing flights were carried out, all aeroplanes remaining serviceable throughout. The total flying time on manœuvres was 179 hours.

On 25th October, His Excellency the Viceroy and Staff visited Peshawar and made an air tour of the Peshawar Vale, the route taken being *via* the Kabul Gorge, Shabkadr, Abazai, Malakand, Risalpur and Peshawar City. On the 28th the party made an air tour of the Hangu Valley, the route being *via* Kohat, Hangu and Thal.

### IRAQ.

With the exception of raids carried out in Western Iraq, the situation has been quiet during the last three months and only minor operations have been necessary.

Reduction of Forces.—The first reduction of the forces following the ratification of the Turco-Iraq Treaty was effected during August by the amalgamation of the 1st and 2nd Levy Cavalry Regiments. This regiment will be known as the 1st/2nd Cavalry Regiment, Iraq Levies, and will be stationed at Kirkuk. The Iraq Army is now providing the garrison for Arbil, formerly provided by the 2nd Levy Cavalry Regiment.

On 22nd September the 2nd Battalion 16th Punjab Regiment left Mosul to replace the 4th Battalion, 2nd Regiment Bombay Pioneers, at Hinaidi. The latter have left Iraq for India.

No. 1 Fighter Squadron and Headquarters and one flight of No. 45 (B) Squadron were withdrawn from Iraq on 1st November.

Western Iraq.—On 5th October, a party of Shammar Abdar's raided into Kuwait territory and succeeded in looting some 1,100 camels. The raiding party was located near Buswah on the 8th October by ten machines of No. 84 (B) Squadron operating from Abu Ghar. Messages were dropped and as these had no effect air action was taken. The raiders then split up into small parties and the operations were continued by a section of No. 4 Armoured Car Company and police from

Rutbah. Reconnaissances were carried out daily by a detached flight of No. 55 (B) Squadron and by the Armoured Cars. Small parties of raiders were located. Action was taken by the aircraft and Armoured Cars and the raiders dispersed. The raiders have not been located again and the situation is now normal.

SULAIMANIYAH.—During August a column consisting of one company of Iraq Levies, a sub-section Machine Gun Company and one company Iraq Army left Sulaimaniyah for a tour of the Qaradagh area. Aircraft co-operated with the column during the tour, which occupied ten days. The situation was quiet in all the districts visited.

With a view to ensuring that Salar-ud-Dowlah and his tribesmen, who have been carrying on a rebellion in Persia, respects the Iraq frontier, a column consisting of two companies of 1st Battalion, Iraq Army, under the command of Major Bentinck left Sulaimaniyah on 16th September for Khurmal. Ground reconnaissances were carried out in the neighbourhood but the situation was found to be quiet. Salar-ud-Dowlah was eventually apprehended on the road between Arbil and Altum Kupri on the 31st October, and sent to Baghdad under escort on 3rd November. The question of his disposal is still under consideration. The column returned to Sulaimaniyah on the 14th November.

A column composed of three companies of Iraq Levies, one Levy machine gun section and two companies of the 4th Battalion Iraq Army, under the command of Lieutenant Colonel Barke, left Sulaimaniyah on 16th September, its object being to shepherd the Jaf during their migration to Iraq territory from Persia and to prevent Shaikh Mahmoud from obtaining taxes from them *en route*. The passage of the Jaf progressed without incident and the column returned to Sulaimaniyah on the 10th November. All the Jaf are now in the Kifri plain and the situation is quiet.

Flying Officer Denny and L.A.C. Hurst, who, as reported in the last JOURNAL, were released after being captured by Shaikh Mahmoud in June, when their machine made a forced landing, were handed over personally by Shaikh Mahmoud on 9th October near Kurmal and advantage was taken of his visit, to place before him the Government's terms for his submission and final settlement. After consulting his friends, Shaikh Mahmoud professed his readiness to agree to the Government's terms, and has sent Saiyid Ahmad Murakhas to Baghdad to settle with the Government the details of his (Shaikh Mahmoud's) submission.

ARMOURED CARS.—During December, No. 4 Armoured Car Company carried out a reconnaissance of the Southern Desert in order to gain knowledge of the country in case of Akhwan raids. The cars left Shaibah on 13th December, and visiting Rukhaimiyah, Gulban, Laiyah, Buswah, Abu Ghar, Tell el Lahm, Halibah, Hasamah, Shabba and Rufahiyah, returned to Shiabah on the 21st.

## PALESTINE AND TRANSJORDAN.

On the 1st October, the Administrative control of the Royal Air Force in Palestine and Transjordan was transferred to the Air Officer Commanding, Middle East. Headquarters, Palestine Command, was transferred from Bir Salem to Amman, and is now designated " Headquarters Transjordan and Palestine."

## BRITISH CIVIL AVIATION

THE IMPERIAL CONFERENCE.—The consideration of questions of Imperial Air Communications by the Imperial Conference has accomplished excellent results. The way has been opened for preliminary steps in regard to the establishment of further airship bases and meteorological organization in various parts of the Empire and also for the study of schemes for air transport by aeroplane or seaplane. It may now be said that progress rests mainly upon technical development and that the prospects of the establishment of Empire-wide services within a few years are very bright. A very comprehensive statement on the present position of civil aviation throughout the world, with maps of existing and proposed routes and a detailed examination of the steps being taken by the British Government to accomplish the technical development necessary, particularly as regards airships, is given in a publication entitled " The Approach towards a System of Imperial Air Communications," which was prepared for the information of the Conference and has now been made available to the public (H.M. Stationery Office, 5s. net). This book contains, in addition, the report of the Air Communications Sub-Committee of the Conference.[1]

CAIRO-KARACHI SERVICE.—The organization of the first Empire Air Route, from Cairo to Karachi—a distance of 2,500 miles—is now practically complete. The first of the new " Hercules " type of aeroplanes left Croydon for Cairo and Basra at daybreak on Saturday, 18th December, Captain C. F. Wolley Dod in command. The route taken was Croydon, Dijon, Marseilles, Pisa, Naples, Malta, Khoms, Bengazi, Sollum and Cairo. Cairo was reached without incident on Christmas Eve, and the journey eastward was continued on the 27th, *via* Ziza, Rutbah Wells and Baghdad to Basra. The passenger list included Air Vice-Marshal Sir W. Sefton Brancker, K.C.B., A.F.C., the Director of Civil Aviation, Air Commodore G. T. Weir, C.B.E., and Mrs. Weir, and Captain Gladstone. The latter was proceeding to East Africa in connection with the new Khartoum Kisumu experimental service.

The second " Hercules," Captain W. R. Hinchliffe in command, left Croydon on 20th December, arriving Cairo twenty minutes in advance of schedule on 24th December.

The third " Hercules," commanded by Captain F. L. Barnard, left Croydon at 7.40 a.m. on 27th December, carrying the Secretary of State for Air, Lieutenant Colonel the Rt. Hon. Sir Samuel Hoare, Lady Maude Hoare and Air Vice-Marshal Sir Geoffrey Salmond, with their Staffs. The aeroplane arrived at Delhi on the 8th January, 1927, according to programme.

The flight of the Secretary of State from Cairo to Karachi marks the official inauguration of the service. For the first three months a fortnightly service in each direction will be run between Cairo and Basra only, and upon the completion of this preliminary phase it is expected that the complete route to Karachi will be put into regular operation, beginning with a fortnightly service. The flying dates are arranged to provide a connection with sailings of P. & O. liners between England and Port Said.

TO INDIA BY LIGHT AEROPLANE.—A very sporting flight to India in De Haviland " Moth " light aeroplanes of 90 h.p., is being made by Mr. T. Neville Stack and Mr. B. S. Leete, two members of the Lancashire Aero Club, who arrived

[1] Copies of this publication have been added to the R.U.S.I. Library.

at Jask on the same day as the " Hercules " aeroplane carrying Sir Samuel Hoare. They left London in November and flew through heavy weather to Pisa, crossing the Alps *en route*. They arrived at Karachi on the 8th January, 1927.

The trip over the Mediterranean from Naples *via* Malta to the N. African coast, in two stages of 250 miles each across the open sea, gave a remarkable example of the capabilities of these little machines. Except for the addition of extra petrol tankage the machines are standard " Moths " exactly similar to those used so successfully by the Light Aeroplane Clubs.

### The Schneider Trophy Seaplane Race.

The principal air event of sporting interest was the winning of the Schneider Trophy Seaplane Race at Hampton Roads, U.S.A., by the Italians. The contest last year resolved itself into a match between the United States and Italy, no British entry being possible as time was considered too short for the development of a new design of high speed machines. As it is, the next contest will be held in Italy, in September, and British machines will again have an opportunity of competing. The Schneider Trophy Contest is recognised as the leading sporting event of aeronautics and presents not merely the problems of attaining extremely high speed in the air but also of taking off and alighting at high speed on open water and of manœuvrability in taking the turning points of the course without undue loss of speed.

(*See also page* 230).

## AVIATION IN FOREIGN COUNTRIES

### CZECHO-SLOVAKIA.

Prague Aviation Meeting.—The President's Cup Competition for single-seater machines was flown on 12th September in very bad weather, which prevented last year's performance being repeated or excelled. This speed contest was won by the Smolik 20, a single-seater fighter equipped with a 300 h.p. Hispano Suiza engine, at a mean speed of 143 m.p.h.

The 250 kg. useful load competition was also won by the Smolik 20 at a speed of 152 m.p.h.

The 500 kg. useful load competition was won by the Aero II, a reconnaissance machine with 240 h.p. Perun II engine, at a speed of 122 m.p.h.

In the competition for aircraft of not more than 100 h.p., the B.H. 10 monoplane equipped with 60 h.p. Walter engine was the winner.

First Czecho-Slovakia Seaplane.—The tests of the first seaplane to be constructed in Czecho-Slovakia were carried out in October. This machine, the Aero 29, which is an adaptation of the Aero II, is a reconnaissance bomber equipped with a 250 h.p. Perun II engine. With a load of 1,540 lbs. a speed of 124 m.p.h. was attained.

## FRANCE.

AIR VOTES.—The Aeronautical Sections of the 1927 Budget were all voted by 17th December. This is a very early date, as it is most unusual for the French Budget to be passed before the beginning of the relative financial year.

The amounts voted were :—

| | |
|---|---|
| Military Air Service .. .. .. | 725,666,922 francs. |
| Naval Air Service .. .. .. | 99,749,900 francs. |
| Colonial Air Service .. .. .. | 18,260,900 francs. |
| Aviation and Air Transport .. .. | 169,194,636 francs. |

Reductions were only made in the case of the Military and Naval Air Services. The Colonial Air Service Vote was left untouched, while that for Aviation and Air Transport was increased by approximately five million francs.

The amounts voted for 1926 will be found in these Notes for July, 1926.

LONG DISTANCE FLIGHT.—*Paris–Djask.*—Lieutenant Coste and Captain Rignot left Le Bourget on 28th October, in an attempt to beat the world's non-stop distance record. They were flying a Breguet XIX fitted with a 500 h.p. Hispano Suiza engine. After thirty-two hours' flying a landing was made at Djask in Persia owing to darkness. The distance was 3,391 miles, and constitutes a world's record. 620 gallons of petrol was carried and there were still thirty gallons in the tanks on landing. After a short rest the airmen continued by easy stages to Calcutta and returned to Paris *via* Karachi, Aleppo and Rome, covering in all 12,000 miles in 100 hours' flying time without the slightest incident.

PARIS AERO SHOW.—The Paris Aeronautical Exhibition was held during the first fortnight of December. A number of machines selected by the Air Services as replacements for types at present in service were shown, while the Breguet XIX was exhibited in various forms. Particularly interesting were the propaganda sections of the Military and Naval Air Services, where the life in both Services was explained, and every inducement offered to young Frenchmen to join ; large parties of school children of both sexes were daily to be seen in conducted tours at very reduced entrance fees.

## ITALY.

AIR PROPAGANDA.—The Government has founded a National Institute of Aerial Propaganda known as I.N.P.A. Its funds are to be largely drawn from the Air Vote up to a limit of 500,000 lire per annum. An initial capital of 400,000 lire is provided by the State. The objects of the Institute are to :—

(*a*) Study and compare the means for the spread of the " air idea " of the country ;
(*b*) Cultivate and encourage publications of Air Culture and propaganda ;
(*c*) Develop all means which will encourage the growth of Civil Air Traffic;
(*d*) Promote the growth of study for the aeronautical trades and professions ;
(*e*) Advertise the value of the national Aircraft Industry both in the country and abroad ;
(*f*) Collect and distribute news and information on the national air activities in the kingdom, in the colonies and abroad ;
(*g*) Devise and utilise all means for improving the powers of propaganda.

An aeroplane squadron to be known as the "P" Squadron is to be formed at Rome exclusively for Air Propaganda.

ITALIAN CUP RACE.—This race is restricted to single engined landplanes of between 40 and 90 h.p., capable of carrying a minimum useful load of 175 kg. (386 lbs.) at a minimum speed not exceeding 70 km.p.h. (43.5 m.p.h.) and a maximum speed of not less than 100 km.p.h. (62 m.p.h.). Italy entered four machines and Czecho-Slovakia and Germany one each.

As in the 1925 race, the Czecho-Slovak machine B.H.11 obtained first place with a minimum speed of 67 km.p.h. (41.6 m.p.h.) and a maximum speed of 154 km.p.h. (95.7 m.p.h.). The Italian Macchi 20 was second, and the German Udet 12 third.

WORLD RECORDS BY SAVOIA 55.—On 19th October, the following world records were created by a Savoia 55 double-hulled seaplane fitted with two Isotta Fraschini "Asso" 500 h.p. engines.

| | |
|---|---|
| *With useful load of* 2,000 *kg.* (4,409 lbs.). | |
| Endurance .. .. .. | 5 hrs. 41 mins. 7 secs. |
| Distance .. .. .. | 950 km. (580 miles). |
| Speed over 100 km. .. .. | 176.005 km/hr. (109.38 m.p.h.). |
| ,, ,, 500 km. .. .. | 173.567 km/hr. (108 m.p.h.). |
| *With useful load of* 1,000 *kg.* (2,205 lbs.). | |
| Endurance .. .. .. | 5 hrs. 41 mins. 7 secs. |
| Distance .. .. .. | 950 km. (580 miles). |
| *With useful load of* 500 *kg.* (1,102 lbs.). | |
| Distance .. .. .. | 950 km. (580 miles). |

SCHNEIDER CUP.—This was won by Major Mario di Bernardi at a speed of 246.5 m.p.h. The machine used was a Macchi M.39 fitted with an 800 h.p. Fiat AS2 engine. Further details will be found under the United States section.

THE ITALIAN AERO CLUB.—The Italian Aero Club was constituted as an official body with legal status by Royal Decree in July, 1926, to co-ordinate and embrace all activities of a civil aeronautical nature. It is under the supervision of the Ministry for Aviation, a representative of which has the casting vote on the Administrative Council. All individuals, associations, companies, institutes and non-government bodies desiring to obtain any form of assistance or facility for non-military objects must apply to the Air Ministry through the Aero Club which will first express its views on the subject. The Aero Club receives and examines the programmes of and, if it approves, issues the necessary permits for all public aeronautical events such as races, competitions and exhibitions.

## JAPAN.

### NAVAL AIR SERVICE.

The Japanese press reports that a small Junker plane for an "I" submarine has been made at Yokosuka. The machine is made of duralumin and equipped with a 300 h.p. Hispano Suiza engine, and can be erected by two men within ten minutes. It carries wireless for communication with the submarine.

## SPAIN.

SPANISH-AMERICAN CONGRESS.—A Spanish American Congress, in which Spain, Portugal, Mexico, Brazil, Peru and Argentine were represented, was inaugurated at Madrid on 25th October, with the object of evolving a scheme of co-operation in aviation matters between the countries represented.

The following were the chief points agreed upon :—

(*i*) A Spanish-American Convention, based on the International Air Convention but with the main difference that all countries participating should enjoy absolute equality. This Convention is not to involve the cancellation of any previous undertakings by the Governments who are signatories to it ;

(*ii*) The formation of a Spanish-American Diplomatic Conference at Barcelona to deal with all questions of law affecting air navigation ;

(*iii*) The establishment of an International School of Air Navigation in Portugal.

During the time that the Congress was in progress a small exhibition of aircraft and accessories, all of which, except a few instruments, were of Spanish manufacture, was held in Madrid. This exhibition was organized by the Spanish Aero Club and in spite of its limitations, was of interest as being the first exhibition of its kind to be held in Spain.

MELILLA SPANISH-GUINEA FLIGHT.—Three Dornier Wal flying boats, fitted with 360 h.p. Rolls Royce engines, left Melilla (Spanish Morocco) on 10th December on a flight to Spanish Guinea (4,500 miles approximately). They arrived at St. Isabel Bay, Fernando Po on 25th December, having landed at Casablanca, Las Palmas, Port Etienne, Dakar, Konakri, Monrovia, Grand Bassam and Lagos. There will be a halt of about three weeks at Fernando Po before the final stage of the flight is attempted. Each machine carries three officers and one mechanic.

## UNITED STATES.

### NAVAL AIR SERVICE.

LANDING TESTS ON THE AIRCRAFT CARRIER "LANGLEY."—Tests have recently been carried out to determine the speed at which a squadron of planes could be operated from and on to the aircraft carrier "Langley." On the day the tests were made, in spite of the fact that there was sufficient sea to cause the carrier to pitch, No. 1 Fighting Squadron accomplished 127 landings with only a few minor accidents to machines.

As a result of the experience gained in these tests the twelve machines of this squadron, when flying into a thick sea mist during operations, were able to land on the carrier within a space of twenty-one minutes.

PROGRESS IN CATAPULT DESIGNS.—According to the *Army and Navy Register* of Washington, constant efforts are being made in the U.S. Navy to improve their catapults. One type, about to be tried, is designed to launch amphibians, while another experimental catapult is of the turntable type. If this latter is successful it will probably replace the older type now fitted in battleships.

It is reported that twelve battleships are already equipped with one catapult each and ten scout cruisers with two each.

LONG DISTANCE NON-STOP FLIGHT.—The Navy Department organized a non-stop flight from Hampton Roads, Va., to Colon, Panama, C.Z., a distance of 2,100 miles using two P.N. 10 flying boats each fitted with two 500 h.p. Packard engines.

The flight commenced on 22nd November, 1926, and it was intended that the machines should fly over the following route: Hampton Roads, Cape Hatteras, Miami, Florida, Alligator Key, Mariel, Cuba, Isle of Pines, Old Providence Island to Colon, Panama, C.Z.

On reaching the Isle of Pines, a distance of 1,029 miles, one machine ran out of oil and landed to replenish the oil supply. This machine completed the flight on 26th November. The second machine succeeded in reaching a point about mid-way between the Isle of Pines and Old Providence Island, a distance of about 1,174 miles, when it was forced to land through a broken connecting rod and was transported to Colon.

The object of the flight was to test the suitability of this type of machine for long distance scouting work with the fleet.

### ARMY AIR CORPS.

LONG DISTANCE FLIGHT THROUGH CENTRAL AND SOUTH AMERICA.—Five Loening amphibians fitted with inverted Liberty engines are being used for this flight which commenced on 21st December, 1926. With extra petrol tanks which have been fitted, it is estimated that the flight endurance of the machines will be ten hours. This, with a cruising speed of 100 m.p.h. will give them an approximate range of 1,000 miles. The object of the flight is:—

(*a*) To subject the amphibians to severe tests over land and water;
(*b*) To demonstrate the feasibility of air transport over long distances;
(*c*) To give the Governments and people of Central and South American countries an opportunity of examining American aircraft—particularly those interested in civil aviation.

The route which covers a distance of 18,500 miles is divided into six divisions, as follows:—

(1) San Antonio, Texas; to Colon, Panama Canal Zone.
(2) Colon to Valdivia on West Coast of Chile.
(3) Valdivia, across the Continent to Rio de Janeiro.
(4) Rio de Janeiro to Port of Spain, Trinidad.
(5) Port of Spain to St. Thomas, Virgin Isles.
(6) St. Thomas to Washington, U.S.A.

An officer is stationed in each of the divisions to arrange for petrol, oil, spares, etc. The machines will visit most of the important towns along the route, in all about seventy stops will be made.

The cost of the flight is estimated at $55,000 (approximately £11,000). The flight will in all probability terminate during the first week in May, 1927.

SCHNEIDER CUP RACE.—The race which was held at Hampton Roads, Va., on 13th November, was flown over a course of 350 km. (seven laps of 50 km.). America and Italy were the only contestants for the cup. The American team consisted of three Curtiss R.3.c specially designed racing machines, similar to those flown in the race the previous year, when the Americans won the cup. The machines were fitted with a new type of float having rounded off noses instead of the sharp nosed floats previously used. The engines used were a new Curtiss V-1,550, developing 700 h.p., a specially geared Packard V-1,500, developing 700 h.p., and a Curtiss V-1,400, developing 600 h.p.

The Italian team consisted of three Macchi Monoplanes fitted with Fiat engines, developing 800 h.p.

The race was won by Italy the order of finishing being as follows :—

| | | |
|---|---|---|
| Italy : | Pilot, Major de Bernardi .. | speed 246.496 m.p.h. |
| U.S.A. : | Pilot, Lieut. Schilt . .. | speed 231.363 m.p.h. |
| Italy : | Pilot, Lieut. Bacula .. .. | speed 218.006 m.p.h. |
| U.S.A. : | Pilot, Lieut. Tomlinson .. | speed 136.953 m.p.h. |

The remaining two machines were forced out of the race, the American by a petrol pump failure and the Italian by a broken oil pipe.

A brief resume of the race in previous years is as follows :—

1913, won by France ; 1914, won by England ; 1915-1919, no race ; 1920 and 1921, won by Italy ; 1922, won by England ; 1923 and 1925, won by U.S.A. ; 1924, no race ; 1926, won by Italy.

It is interesting to note that the development of aircraft and engine construction since 1913 has resulted in an increased speed of from 45 m.p.h. in 1913 to 246.496 m.p.h. in 1926.

No country has, as yet, succeeded in winning the trophy three times within five years which is the rule governing permanent retention of the cup.

# AIRSHIP NOTES

## GREAT BRITAIN.

DOMINION PREMIER'S INSPECTION.—In November, the Royal Airship Works were visited by some of the Dominion Premiers and other representatives who attended the Imperial Conference. They were able to inspect the test bay of "R101" on which experiments have now been completed; and "R33" made a flight carrying two Grebe aeroplanes. Grebes have now been successfully released in the air on two occasions.

CARDINGTON MOORING MAST.—This has now been completed and tested, successful mooring trials having been carried out by "R33."

IMPERIAL AIRSHIP ROUTES.—The Imperial Air Communications Sub-Committee of the Imperial Conference discussed the question of airship routes, and recommended that the Dominions should consider the possibility of erecting, at their own expense, mooring masts suitable for accommodating the new airships for the purposes of demonstration flights to be carried out in 1928-29.

The recommendation was adopted by the plenary Conference, and the Governments of Canada and South Africa have already signified their willingness to fall in with the proposal.

Representatives of the Airship Staff of the Air Ministry will shortly leave this country for a tour over the principal routes which have been proposed, to investigate possible sites for bases.

## UNITED STATES.

"LOS ANGELES" FLIGHT.—On 15th October, the Navy Airship, "Los Angeles," with a crew of forty-four and four passengers on board, carried out a sixteen hour flight from Lakehurst to Detroit and was moored to the mast at the Ford Airport, returning to its base later in the day. Further mooring tests were abandoned on account of stormy weather.

The "Los Angeles" is also engaged in carrying out flights for the purpose of assisting in the calibration of compass stations along the Atlantic coast.

FORD AIRPORT MOORING MAST.—The "R.S.1" semi-rigid army airship, flew from Scott Field to Detroit, a distance of 450 miles, during the night of the 17th/18th September for the purpose of carrying out mooring operations at the Ford Airport mooring mast. This was successfully accomplished and after refuelling the airship returned to its base. This is the first time that the "R.S.1" has been moored to a mast.

A special feature of the Ford mast is the mechanism by which an airship can be hauled up or down whilst still secured to it.

SEARCH FOR HELIUM.—The recent report by the House Committee on appropriations for the Navy Department emphasises the necessity for a larger supply of helium to meet forthcoming requirements in connection with naval and military airships. The Petrolia field, the report states, is rapidly diminishing and the cost of producing helium is rising, the latest figure being $54.21 per thousand cubic feet. Tapping of another field cannot be long delayed, but Congress should consider the question of helium reserve.

# REVIEWS OF BOOKS

**Imperial Defence.** By Stephen King-Hall. (T. Fisher Unwin, Ltd.). London. 9s. od. net.

The author gives this book of his the sub-title of " A Book for Taxpayers " and explains to us that in writing it he has primarily set himself the task of explaining to those who pay the £116,000,000 per annum why the money is spent. He also emphasizes that, in a democratic country, it is not enough that the citizen should " put up the money," he must " understand enough of the requirements for Imperial Defence to be able to assure himself that the money is well spent."

The object of the writer is so entirely to be commended and he has gone so far to achieve success in the presentation of his subject that it may seem churlish to criticize his style, but we do hope that when he writes his next serious work he will check a slight tendency to strain after the dramatic phrase or the arresting simile. These, however much they help to lighten a somewhat heavy subject, may detract from his ability to impress the more serious student. It is unfortunate, too, that the book was written before the report of the recent Imperial Conference was published, while the chapter on disarmament could have been made considerably more illuminating if the author had waited to study the deliberations of the Sub-Committee of the Preparatory Commission for the Disarmament Conference.

For the rest this is an admirable exposition of just what every British citizen, who takes any real interest in our national and imperial welfare, should know. The more deeply read student of war will not find anything very new or novel in its pages, save one or two suggestions of the writer's own, such as that for a Joint Defence Fund, but the less advanced student will find it a concise treatise of facts, coupled with a number of useful quotations of authoritative opinions, on which to build his investigations into this vast subject.

Lord Haldane, in the Preface, implies that the author, as a naval officer, has been unduly kind to the pre-war Admiralty, with their determined resistance to the formation of a proper Staff, their absurd secrecy and their hopelessly obsolete and vague war plans, but if the latter has not dwelt over-much on the failures of the past, he has, at least taken his " taxpayers " firmly in hand in pointing the lessons of the future. While " the nation must cut its coat according to its cloth," he says, " the most expensive economy would be that of abolishing or sensibly reducing the naval staff . . . it is preferable that a man lose an arm than that he lose half his brain."

This is wholesome fare for the general public of to-day, no doubt, but the Navy is no different to the other Services in its need for striking a happy mean ; a man who is all brain and no muscle is very little use as a boxer. Peace establishments must not be so overweighted with office-desk personnel that a large percentage of naval officers have forgotten how to handle and fight ships at sea ; nor must the Army be so engrossed with planning and organizing a Continental campaign that only a few experts have practical experience of mountain warfare or the Air Force in building up the nucleus of a great war-organization leaving an unduly small percentage over to fly. The Staff Officer imbued with a very proper sense of his importance in the scheme of things, is, like any other expert, a good servant but a bad master.

Fortunately we can acquit Lieutenant-Commander King-Hall of any narrowness of vision. In handling this very big subject he has shown that he possesses a clear and comprehensive perspective of its main features. Particularly well-balanced is his chapter on a Ministry of Defence in which he shows the weaknesses in the contentions of many who have seized on an ideal without analysing how it attunes with realities. In company with the distinguished military author, whose book forms the subject of a special article in this number of the JOURNAL, he points to the need for our Government, as well as our Higher Staffs, being organized for war; but there are even greater problems, brought into particular prominence by the recent pronouncement on Inter-Imperial relations, which must be solved if the defences of the Empire are to be on a sound administrative basis and if the higher control of war, when it comes, is to be in safe and firm hands. These problems include the organization of each and all of the Imperial Governments for war and the co-ordination of Imperial policy as well as military strategy in war.

This latter subject is touched on by the author, but, if he is looking for new fields to conquer, here is ample material for a considerable volume. Meanwhile he is to be congratulated on a work of national importance, national because, if "taxpayers" (both within and without the Services) will read this book with its clear exposition of facts and if they will take to heart its tenets, it should definitely advance the education of the nation in that most essential and elementary art—the art of self-preservation.

**A Greater than Napoleon, Scipio Africanus.** By Captain B. H. Liddell Hart. (William Blackwood & Sons). Edinburgh and London. 12s. 6d.

"A Greater than Napoleon" is a daring and provocative title, and perhaps Captain Liddell Hart chose it in order, at the very beginning of his book, to make his readers think. Certainly his bold statements and shrewd epigrams will cause them to think, during the whole of their reading, although they may find themselves at least as often thinking against as with the author.

At first sight it seemed strange that Captain Liddell Hart, who apparently belongs to what may be called the modern school of military thought, should have "gone back to Methuselah" for his subject; but, as he very justly points out, "the art of generalship does not age." Also as one reads, it appears as if the author, who is a convinced "Easterner," using the word in the sense in which it was employed in the Great War, (was not Napoleon an Easterner when he invaded Egypt in 1798?), cast round for a commander who was "modern," and whose actions would successfully exemplify the Easterner's theories that the "roundabout course" is the best, and disprove those of the class who believe in "the destruction of the enemy's main forces on the battlefield" as an end in itself; a belief in which "purblind apostles of Clausewitz have deceived themselves—and the world, unhappily." But those who so believe, it may be noted, have not carefully studied his book, "On War," where it is definitely stated that: "If there are any enterprises which are particularly likely to break the enemy's alliances or make them inoperative, to gain new alliances for ourselves, to raise political powers in our favour, etc., etc., then it is easy to conceive how much these may increase the probability of success, and become a shorter way towards our object than routing the enemy's forces." The Romans possessed and used the power of undertaking such enterprises by striking first in Spain at what may be called Hannibal's advanced base, and subsequently in Africa at the base itself. Whereas the "Westerners" would argue that only an attack in Pomerania held out at all similar prospects during the Great War; and to make it was thought by the majority of sailors to be impracticable.

While much that Captain Liddell Hart says, although in terms of somewhat lavish praise, in favour of Scipio's tactics, strategy and policy, may fairly be accepted, his book necessarily leaves so many gaps in our knowledge of the military, economic and topographical conditions of the era that, in the opinion of the reviewer, it is at times out of the question to form a clear mental picture of the strategical, and to a lesser extent tactical, situations on the sea, in Spain, and even in Africa. For instance, the Romans did not attempt the obvious measure of completely severing Hannibal's communications by sea from Italy to Carthage —it may have been beyond their power even to try to do so—and he actually was able to move " the main strength of his army " by sea back to Africa. It seems that the Romans found it possible to tolerate the presence of an invader in their territories to an extent that now would be much less practicable. Also we are told that in Spain, Scipio " gained the strategical initiative, which is by no means identical with the offensive " ; it was apparently the fact that the Roman troops could be moved to Carthagena by sea that enabled him to place his enemies in a dilemma. But the positions of the enemy's armies, under Hasdrubal Barca, the brother of Hannibal, Hasdrubal Gisco and Mago, are not accurately known, nor are their objectives. The author states that Hasdrubal Barca " felt forced to take the offensive " and was defeated, but some of " those mainly civil historians who decry Scipio " are of opinion that Hasdrubal outmanœuvred his opponent, who wanted to prevent him from joining Hannibal in Italy. Again, were these Carthaginian generals " first-class opponents," as Captain Liddell Hart affirms ? Or were they men " whose errors and misconduct caused the reverses that Hasdrubal met with " ?

It is true that any comparison between Scipio and other great leaders " must be based on the conditions these men had to deal with, and the skill with which they turned these conditions to their advantage." But the question is first whether such a comparison can accurately be made on the information that is available ? and, secondly, whether far more space than the author is able to devote to it is not required ? Is it not better, then, to agree with Napoleon that : " The man of ability takes advantage of everything and neglects nothing that can give him a chance of success ; whilst the less able man loses (may lose) everything by neglecting a single one of those chances " ; and not attempt comparison ?

In spite of criticism, there is no doubt, however, that this book contains a powerful statement of the Easterner's strategy and its success, which every soldier who wishes to know his business should study. And, if he compares it with " Soldiers and Statesmen," in which the Westerner's view is given with equal conviction, and forms his own conclusions, he will know a good deal more of his business than before he did so.

**The Military Genius of Abraham Lincoln.** An Essay by Brig.-General Colin R. Ballard, C.B., C.M.G. (Oxford University Press). 15s.

General Ballard's book can be recommended for two reasons. It is readable because it gives a clear account within a short space of the operations of a long war. It is interesting and instructive because it shows that, for the successful conduct of war, the soldier and the statesman must have confidence in each other.

General Ballard confesses himself an enthusiastic admirer of Lincoln and enters wholeheartedly into a defence of the latter's conduct of the war—a conduct which has been severely criticized in the past by two such eminent military writers as Lord Wolseley and Colonel F. R. Henderson. The charges are that Lincoln, who was virtually a dictator and was confessedly ignorant of military affairs, let

political pressure rule his military policy, and interfered with the commanders in the field.

It will be found, however, that conscious of his ignorance and inexperience, he realized that he had to evolve a method of conducting war. There were no soldiers to whom he could turn for advice in which he could have confidence, because there were none who had had either training or experience in directing large operations. His natural common sense showed him that policy and strategy must be complementary, and that the enemy's main army was the main objective. " I think Lee's army and not Richmond is your sure objective point " (Lincoln to Hooker). He was always seeking for " someone who would take the responsibility and act, and call on him for all the assistance needed, pledging himself to use all the power of the Government in rendering such assistance " (Lincoln's interview with Grant). Meanwhile he carried on his own shoulders the full responsibility for the whole conduct of the war, and therefore would not relinquish his personal control of operations. General Ballard would appear to believe that Lincoln abdicated this control when he found Grant. It would rather seem that he merely changed his method. He gave up interference because he relied on the man in whom he had confidence, but he kept a careful oversight of operations and did not hesitate to give good advice. This is shown in his letter to Grant *á propos* of Early's raid on Washington in July, 1864, and again in his advice to Grant to put Sheridan in command in the Valley, in September, 1864. Sir Frederick Maurice brings this out in his book " Governments and War."

While General Ballard justifies Mr. Lincoln's interference, particularly with McClellan, it must not be thought that he justifies civilian interference in principle. Far from it. He, however, does not imply any lessons for the future from Lincoln's relations with his generals. Other than that soldiers must make allowance for political considerations.

**Jane's Fighting Ships. 1926.** Edited by Oscar Parkes, O.B.E., M.B., Ch.B.; and Francis E. McMurtie, A.I.N.A. (Sampson Lowe, Marston & Co.). London. £2 2s. od.

The publishers and joint-editors are to be congratulated on the thirtieth annual edition of " Fighting Ships." Year by year this admirable publication has steadily improved and we are promised yet further developments. One of these has been initiated in the new type of silhouette adopted in the British warship section as the result of the favourable reception of a sample page in last year's edition.

A number of additional photographs and details of new construction appear this year, noticeable amongst the former are those of the British battleships " Nelson " and the reconstructed " Warspite," also a view of the so-called " Treaty " type of cruiser, " Cumberland " in a fairly advanced stage. Good views of the aircraft-carrier " Furious " are provided in the place of the inadequate one which we criticized last year.

Particularly interesting are the photographs showing modified upperworks of some of the Japanese battleships and battle-cruisers, closely resembling, in principle, those effected in the " Warspite," while we also see for the first time the changes being made in the course of the reconstruction of the older American battleships.

The more important foreign navies are nearly all found to be developing the big aircraft-carrier, which is clearly destined to become an increasingly important unit of the fleet. The French " Béarn," the Japanese " Akagi," and " Kaga," the United States " Lexington " and " Saratoga " are all in various stages of

construction. Italy, alone, seems to lag in this respect, which is all the more remarkable in the case of a nation so keenly interested in aviation and so renowned for enterprise in warship design.

One could continue to note the many features which this volume contains, illustrating the lines on which new fleets are shaping, but in the space available it is impossible to do it justice in this respect. The best thing the reader can do is to get hold of a copy and, if he is interested in these matters, he will find himself absorbed for hours. Progress is evidently the watch-word of Dr. Parkes and his colleague, so we do not hesitate to again invite their attention to two points. Air reconnaissance is now an essential part of naval work, therefore aerial photographs of typical warships would be increasingly valuable for future editions. The other is a smaller matter, but, as we have also remarked before, it would make for completeness if plans of the principal naval ports and bases, on the lines of those in the American and Japanese sections, were included in the case of the other important sea powers.

**Secret and Confidential:** THE EXPERIENCES OF A MILITARY ATTACHE. By Brig.-General W. H. H. Waters, C.M.G., C.V.O. (John Murray, Albemarle Street, W.). London, 1926. 18s.

After so long a connection with Russia, it is not surprising that Brigadier-General Waters should be able to publish a volume of experiences that are both uncommon and entertaining. His narrative reads smoothly and the reader's interest rarely flags. He would seem to have enjoyed to an exceptional degree the confidence of the late Tsar, Nicholas II. As military attaché, as the War Office representative in Manchuria, and lastly, when employed on a special mission to Russian Imperial Headquarters, he had opportunities second to none for acquiring an insight into things that mattered but were hidden to the ordinary public. How far General Waters succeeded in his many and various tasks the reader must be left to judge for himself. It is of particular interest to note that, so far as the times about which he writes are concerned, the many scares of Russian aggressive intentions on India rested on very slender foundations; they were, in fact, mostly bogeys. There is also much that is worthy of note in the author's story of his voyage into Central Turkestan and to the frontier of India on the Russian side.

It is, however, very regretable to find a work of such merit and interest marred by the author's attitude to one who was, in fact, his best friend and to whom he owed all his appointments in Russia. As Sir James Grierson is no longer with us to defend himself, the insinuations of his one-time subordinate can only evoke a feeling of distaste if nothing more.

General Waters' further claim to have "discovered" Sir William Robertson is so remarkable as to expose him to risk of ridicule amongst those who are conversant with the early career of the distinguished Field-Marshal.

The book is readable and, had it not been for these blemishes, it might have been more highly commended.

## REGIMENTAL HISTORIES

**Prince of Wales's Own, The Scinde Horse.** By Colonel E. B. Maunsell.

Amongst regimental histories, this one is probably unique in style, for it is no mere collection of dry facts or glorification of a particular unit, but contains much entertaining matter, wherein the humour, sarcasm and able criticism of

the author are conspicuous. His outspoken comments on Indian Army methods before and during the late war are most welcome to anyone, who has experienced them and has the interests of that army at heart. An unusual and very interesting feature is the account of various actions with the lessons to be deduced from them. The first forty-eight pages describe the early frontier services of the units now forming the Scinde Horse, Napier's Meanee campaign and the second Afghan war, particularly the Maiwand disaster and the causes of it; the rest of the book, some 260 pages, excluding appendices, is devoted to service in the late war in Europe, Palestine and Mesopotamia.

We read how, in 1914, the higher training in India was inferior to that of the troops in England, largely due to the attitude of those responsible for its efficiency, who found a firm seat on an office stool most conducive to advancement, brevets being frequently given for such work at A.H.Q., to the great disgust of the regimental officer. Thereby office work was multiplied to the detriment of training. Efficiency was further hampered by the lack of support a C.O. got from his superiors when he wanted to get rid of incapables, which got worse in India as the war went on. The author points out how, when changes were compelled by circumstances, senior officers were removed with insult and injustice, men who had loyally served for many years, who, owing to the system prevailing, were put in positions they were mentally or physically not suitable for. "Such treatment cannot be discussed temperately," as the author truly remarks.

Even on his return to India, late in 1918, he found soldiering hopelessly behind the times; generals were often dugouts with no experience of modern war or training, or else failures returned from the front, whose time was mostly taken up in their offices, when they should have been looking after the efficiency of their commands in field work.

Even during the Arab rebellion, in 1920, the lack of good staff arrangements and discipline seems to have been as conspicuous as it was four years earlier in Mesopotamia, except in the matter of supply.

The author considers that service in France was not as well rewarded as it was in other theatres of war, however, eighty honours for all ranks seems a fair proportion for a total of under 220 battle casualties during the whole period of six years' active service.

Of great interest are the comments showing the way the Indians behaved and looked on life in France, these would, with a little expansion, make an amusing book in themselves.

Some of the illustrations might have been omitted, as scarcely relevant, but the maps are good. The work contains far more to interest the general reader than most of its kind, as well as much sound military instruction, though one can imagine, unless things have altered very considerably, it will not receive a very cordial welcome in Simla.

One realises, though nowhere is the point emphasised, from the description of the British and French troops during the latter stages of the war, how very much the command of the seas by the British Navy affected the main issue.

**The Inverness-shire Highlanders, or 97th Regiment of Foot, 1794-1796.** By H. B. Mackintosh, M.B.E., F.S.A.Scot. (J. D. Yeadon). Elgin, 1926.

The Inverness-shire Highlanders, or 97th Regiment, were one of the many regiments raised in 1794 as a result of the outbreak of war with France.

Soon after its formation the Regiment was sent by sea to the south of England and disembarked on 21st August at Gosport, having been over five weeks on board

ship. Towards the end of the year they served in Guernsey, but the ill-health, which had commenced its ravages on the voyage from Scotland, still held them in its grasp, and in January, 1795, we read that thirty-seven died and over 300 were sick. In April, 1795, the 97th returned to England and for the remainder of their service we find they are employed for the most part afloat as Marines. Of the detachment on board H.M.S. " Colossus," present at Lord Bridport's engagement of the 23rd June, it is related that, the piper, kilt and all, was ordered into the maintopmast stay-sail netting where he skirled merrily for the three hours the ship was in action.

The Regiment was ordered to be reduced towards the end of 1795, although a detachment on the " Severn " did not arrive home from the West Indies until January, 1797.

The book helps to fill a blank in the histories of the disbanded regiments of the British Army, most of which lapse into obscurity through having no chronicler. Mr. Mackintosh has compiled his work chiefly from the regimental books and papers of the Regiment and from the letter books of Sir James Grant of Grant's, who formed the Regiment, and which are still in existence. The book is an excellent example of what research can do, and the descendants of the Inverness-shire Highlanders are to be congratulated on having an historian of Mr. Mackintosh's ability.

**The Honourable Artillery Company, 1537-1926.** By Major G. Goold Walker, D.S.O., M.C. (Secretary of the Company). (John Lane). London, 1926. 12s. 6d. net.

The life history of the Honourable Artillery Company should be a matter of interest to everyone who takes a pride in the formation and growth of the British Army, for the very sufficient reason that, but for the members of the Company, the New Model Army might have died still-born. The New Model, the first regularly trained and organized force which existed in Britain, was largely the product of General Skippon, himself " leader " of the Artillery Company from 1639 to 1660 ; moreover, it is on record that the *only* efficient troops in the service of either side at the commencement of the Civil War were the London Trained Bands, officered by members of the Artillery Company. With such a record behind it the H.A.C. may, without presumption, lay claim to have its name inscribed on the foundation stone of the British Army of to-day. For nearly 250 years it was an Officers' Training Corps to the London Trained Bands and, as such, is the oldest Officers' School in the Service.

Major Walker has handled a great mass of exceptionally interesting material in an admirable manner, for he has taken the already extensive, but ponderous, volumes of Raikes' History, added to it a large quantity of new material—the product of his own skilful research—and yet presented the whole in a facile, flowing narrative of less than 300 pages, in which all essentials are kept, but which, by a clever maintenance of the personal touch throughout, contrives to hold the reader from start to finish, whether he be a practised antiquarian or not. The services of the Regiment in the Great War are only dealt with in outline, as a companion volume on this subject appears to be in preparation ; if it is to be like the present volume, the sooner it appears the better. The edition is very well turned out and freely illustrated, and there are several unique uniform plates.

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